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ABSTRACTS

FIBERS A

NATURAL FIBERS A 1

MANMADE FIBERS. J. B. Goldberg, ed. Textile Inds. 122: 69-114 (Aug. 1958). (3230)

This special section on manmade fibers contains the following: Dyeing blended fabrics with special emphasis on Dacron/cotton. by J. A. Komninos, p. 70-74; Printing the manmade fibers, by H. P. Baumann, p. 75-80; Finishing the manmade fibers, by H. C. Borghetty, p. 81-85; How to process Zefran, by H. N. Woessner and J. R. Overby, p. 87-91; Rayon staple manufacture gets automated, p. 92-93; The case for rayon tire cord, p. 94, 97; The case for nylon tire cord, p. 95-97; Styling with the manmade fibers, by S. Prokuski, p. 98-100; Polyolefin fibers: the current position, by C. T. Kennedy, p. 107-110; What's new in textured yarns, by E. Stowell, p. 111-114. A folded chart gives properties, uses, trademarks, and a list of producers' sales offices.

CAUSE OF WOOL FELTING. O. K. Dobozy (Tech. Univ., Budapest, Hungary). (Letter to the editor). Textile Research J. 28: 717-719 (Aug. 1958). (3231)

The purpose of this investigation was to observe the role played by the entanglement of wool fibers placed on the surface of or immersed in water. The entanglement and movement of wool fibers in water is accompanied by intertwining, and this phenomenon may be a basic principle of felting. Diagrams. 4 references.

MAXIMUM ALKALI-COMBINING CAPACITY OF WOOL. J. R. McPhee (Wool Textile Research Labs., CSIRO, Australia). (Letter to the editor). Textile Research J. 28: 714-716 (Aug. 1958). (3232)

NATURE OF PERMANENT SET IN KERATIN FIBERS. M. Feughelman, A. R. Haly, and T. W. Mitchell (Wool Textile Research Labs., CSIRO, Australia). Textile Research J. 28: 655-659 (Aug. 1958). (3233)

It has been shown that permanent set of keratin fibers in water is mainly due to strong polar linkages formed during the setting process. In this paper these linkages are identified with the bonds broken in the second stage of supercontraction of a fiber in a concentrated lithium bromide solution. These bonds are probably formed by groups of cooperative hydrogen bonds which are closely associated in the keratin structure with a tyrosine residue. Graphs. Table. 16 references.

TRANSMISSION OF COTTON FIBER STRENGTH AND EXTENSIBILITY. L. Rebenfeld (Textile Research Inst.). Textile Research J. 28: 585-592 (July 1958). (3234)

The breaking tenacities and breaking elongations of 6 experimental cottons are compared in several textile structures. These structures include single fibers. fiber Pressley bundles, yarns, and fabrics in two constructions. It is shown that the breaking tenacity of single fibers is not fully transmitted to more complex textile structures. The degree of transmission of single fiber strength is not constant for the 6 cottons, but is dependent upon the breaking tenacity of the single fibers. The transmission of fiber breaking elongation to more complex textile structures also is found to vary for the 6 cottons and to be inversely proportional to the single fiber breaking elongation. It is concluded that while the differences among the experimental cottons in fiber strength and extensibility are clearly evident in the textile structure properties, these differences tend to be leveled out by the textile manufacturing operations. Graphs. Tables. 14 references.

MANMADE FIBERS A 2

THEORIES ON THE FINE STRUCTURE OF MANMADE FIBERS. A. Sippel. Reyon, Zellwolle u. Chemiefasern No. 1: 24-27 (1958). In German. Through BCIRA 38: 378 (1958). (3235)

The structural problems of chemical fibers, relating to the individual molecules and their position with respect to each other, distribution of weak and defective places, and laminar structures are reviewed. 23 references.

TECHNOLOGICAL USE OF MANMADE FIBERS. H. Rathert. Reyon, Zellwolle u. Chemiefasern No. 1: 19-23; No. 2: 120-122 (1958). In German. Through BCIRA 38: 358 (1958). (3236)

Properties and uses of synthetic fibers in driving belts, conveyors, hoses, fishnets, ropes and cords, parachutes, coated fabrics, filter materials, filling materials, etc., are reviewed.

X-RAY STUDIES OF THE SUPERMOLECULAR STRUCTURE OF VINYON N. O. Kratky and R. Breiner. Makromol. Chem. 26, Nos. 1/2: 92-95 (1958). In German. Through BCIRA 38: 378 (1958). (3237)

An attempt is made to interpret the small angle interference, found at 171Å in slightly-swollen unoriented Vinyon N, as a meridian reflexion.

WOOL-LIKE FIBERS. D. Traill. Chim. et Ind. 59, No. 3: 290-301 (1958). In French. Through BCIRA 38: 360 (1958). (3238)

In this review, the author discusses the economic importance of different textile fibers, with special reference to the main synthetic fibers (Terylene, regenerated protein fibers, polypeptides) and their properties and uses.

SYNTHESIS AND STRUCTURE OF FIBER FORMING POLYMETHYLENE SULFONES, AND EVALUATION OF SUCH A POLYSULFONE FIBER. H. D. Noether (Celanese Corp.). Textile Research J. 28: 533-541 (July 1958). (3239)

The synthesis and evaluation of fiber forming polymethylene sulfones has shown a new type of structure giving a high temperature resistance. The crystalline melting points of these polymers are very similar to those of the corresponding polyamides. The mechanical properties are representative of a flexible chain above its glass-rubber transition temperature. In addition, the polysulfones are chemically inert towards acids and bases, have relatively low moisture absorption, and have a dye affinity similar to that of cellulose acetate. Tables. Graphs. Photomicrographs. 7 references.

POLYMER PROGRESS: 1958 SERIES. PART 3. CHEAPER SYNTHETIC FIBERS FROM POLYALKYLENES? J. A. Somers. Man-Made Textiles 35: 46-47 (July 1958). (3240)

The production of fiber-forming polyalkylenes by methods in which pressure and heat are applied to the alkylene in the presence of a suitable catalyst is discussed. Another possibility is polymerization achieved by exposure to radioactivity. 3 references.

EFFECT OF ACIDS ON TERYLENE POLYESTER FIBERS. E. Furrer. Textil-Rundschau 13, No. 3: 129-153 (1958). In German. Through BCIRA 38: 341 (1958). (3241)

The experiments described were carried out to study the resistance of Terylene to inorganic acids, and to find a simple method for detecting any damage caused by them. The acids cause, as expected, saponification of the ester linkages in the Terylene molecule, resulting in chain shortening and reduced wear resistance of the fibers. The degree of saponification of an acid-damaged sample was measured by determining the number of cleavage points, i.e. by conductometric titration of the free carboxyl groups. The mean chain lengths were determined by viscosity measurements, and the wear resistance of the fibers was evaluated from their tensile strength and elongation at break. The results obtained are summarized. 53 references.

SULFUR-CONTAINING NYLON DERIVATIVES. C. Earland. Fibres 19: 212-213 (July 1958). (3242)

The disulfide bonds between the long-chain molecules of natural fibers such as wool are an important part of their structure. It has recently been shown experimentally that a similar group may be introduced into some of the synthetic fibers. This article discusses the production of nylon derivatives containing monosulfide and disulfide groups, and their chemical characteristics. 4 references.

RESPONSES TO ENVIRONMENTAL CHANGES AND AN EQUATION OF STATE FOR NYLON YARN. B. H. Eckstein, E. H. Olson, and W. F. Ames (E. I. du Pont de Nemours & Co.). Textile Research J. 28: 701-707 (Aug. 1958). (3243)

Nylon yarn at constant temperature was exposed to changes in relative humidity. It was found that, at constant length, the tension in the yarn is inversely proportional to the logarithm of the relative humidity; at constant tension, the logarithm of the length is proportional to the relative humidity. At low strains, stress is proportional to strain. Then over a limited range a linear relation exists between log stress and log strain. "Equations of state" were derived relating these variables, and the constants therein were evaluated for a nylon textile yarn. Different equations apply in different regions of the stress-strain curve. A similar equation was derived for the case of varying temperature, but the constants were not evaluated. Graphs. Tables. 6 references.

TERYLENE IN THE FISHING INDUSTRY. Textiles in Ind. 3: 54-57 (July 1958). (3244)

The properties and applications of Terylene for fishnets, lines, and snoods are described.

STUDIES ON LANON FILAMENT. H. Kirchner. Deut. Textiltech. 8, No. 1: 9-10 (1958). In German. Through BCIRA 38: 360 (1958). (3245)

Mechanical and technological properties (tensile strength and elongation), elastic behavior, effect of the fixing temperature on the mechanical and technological values (shrinkage, strength and elongation, sulfuric acid solubility) of Lanon filament yarn, and preparation of crimped yarn from this polyester-based product are described.

ZEFRAN. Dow Chem. Co. Textile World 108: 49-54 (Aug. 1958). (3246)

The properties, processing, uses, and chemical finishing of Zefran acrylic fiber are summarized.

FIBERS NOTEBOOK. PART 7. COURLENE. Fibres 19: 231-232 (July 1958). (3247)

The structure, properties, and uses of Courlene and Courlene X3 (polyethylene fibers) are summarized.

WOLCRYLON FIBER, TYPE 2: PROPERTIES, PROCESSING, AND POTENTIAL USES. L. Rudolph. Deut. Textiltech. 8, No. 1: 4-6 (1958). In German. Through BCIRA 38: 360 (1958). (3248)

The improved technological values of type 2 Wolcrylon fibers are discussed by comparing them with type 1. The improved fiber was produced by stretching the type 1 fiber without additional aftertreatment; this explains its better dyeability. The fiber can be used in all cases where chemical and biological stability, high weather and lightfastness, and heat resistance are required. Yarn properties are tabulated for Wolcrylon alone and in blends with Vistra fibers.

YARN PRODUCTION B

INSTRUMENTS HELP DRAFTING ROLL OVERHAULERS. A. B. Roberts (China Grove Cotton Mills). Textile Inds. 122: 129, 133 (Aug. 1958). (3249)

The mill use of the dial micrometer and the Spectrograph for drafting roll maintenance is explained. The Spectrograph is used as an analyzer prior to overhaul, and the dial micrometer to check for eccentricity before dismantling the machine.

DIRECTIONS FOR SPINNING FIBER BLENDS. L. Rudolph. Melliand Textilber. 38, No. 12: 1338-1340 (1957). In German. Through BCIRA 38: 298 (1958). (3250)

Preparation of spun rayon mixtures from various staple lengths and deniers and of blends with other chemical fibers is discussed, particular attention being paid to the combination of advantageous properties of the individual fibers to obtain a good yarn.

ADAPTATION OF MACHINERY TO THE CHARACTERISTIC PROPERTIES OF MANMADE FIBERS. A. S. Roberts. Tex 17, No. 3: 312-321 (1958). Through BCIRA 38: 298 (1958). (3251)

Reference is made in particular to the production of bulked yarns, to the tow-to-top methods and the respective machines, to the tow-to-yarn methods and direct spinners, and to the dyeing of synthetic fibers with acetate, azoic, and Procion dyes.

ACCURATE BLENDS: REMEDY FOR THE VARIABILITY IN COTTON. H. C. Laird. Textile Inds. 122: 68-71 (July 1958). (3252)

The accurate blending of a large number of bales can completely eliminate dyeing problems, and also improve the running of a spinning room by delivering a more uniform roving to the spinning frames. Blending methods worked out years ago for making heather blends in cotton mills employing raw stock dyeing can blend any number of bales so accurately that any handful of picker lap will contain cotton from all bales in the blend. A layout for such a multiple blending system is described and illustrated.

MANUFACTURING PERFORMANCE AND THE EVALUATION OF FIBER QUALITY. B. Johnson (Nat. Cotton Coun. of America). Textile Research J. 28: 620-625 (July 1958). (3253)

This report discusses research on manufacturing performance of lint, research on commercial methods for evaluating fiber quality, and research to establish accurately the relationships between commercially measured fiber quality and manufacturing performance. Brief reports are presented on some recent trends in commercial fiber evaluation research, an experiment on the effects of ginning methods on the manufacturing performance of cotton, and recommendations to cotton breeders as to the fiber property they might most profitably study. Graphs. Tables.

PROBLEMS OF INTIMATE MIXING OF NATURAL AND CHEMICAL FIBERS FROM THE POINT OF VIEW OF THE WOOL PROCESSING INDUSTRY. H. Kobler. Textil-Rundschau 13, No. 4: 193-217 (1958). In German. Through BCIRA 38: 362 (1958). (3254)

The spinning value of various types of fiber, the choice of suitable deniers and staple lengths, fiber texture, and strength and elongation values of the individual fibers are discussed, with reference to problems arising in spinning technology in association with the blending of fibers from different sources.

COTTON SPINNABILITY. S. Klinger. Melliand Textilber. 38, No. 12: 1335-1338 (1957). In German. Through BCIRA 38: 296 (1958). (3255)

Experiments on Mexican cotton sprayed in the hopper feeder with Siligen A (silicic acid sol) showed technological improvements of the cotton when processed on the card, drawing frame, speed frame, and ring spinning machine, as regards neppiness, strength, and regularity of the yarns. Considerably increased productivity was obtained on the speed frame and ring spinning machines.

SLIVER-TO-YARN SPINNING. Rockford Mfg. Co. Textile Inds. 122: 115-118 (Aug. 1958). (3256)

In this report on a mill's changeover to can spinning, the reasons for the change, the necessary conversions, and the effects on the mill operation are discussed. Photographs.

FORMATION AND PREVENTION OF NEPS DURING PROCESSING OF COTTON. PART 2. H.-P. Hartenhauer. Deut. Textiltech. 8, No. 2: 52-57; No. 3: 114-117 (1958). In German. Through BCIRA 38: 363 (1958). (3257)

The possibilities of nep prevention are reviewed, reference being made to nep forming factors during mixing, opening, and cleaning, carding, combing, drawing, and spinning of cotton. 34 references.

OPENING, PICKING, FIBER PREPARATION B 1

MODERN WOOL BLENDING SYSTEMS. W. M. Oddie. Textile Mfr. 84: 331-336 (July 1958). (3258)

Batch blending and continuous blending are described in detail. Photographs.

CLEAN-O-MATIC BLOWROOM. Tweedales & Smalley Ltd. Globe Rev. 3, No. 2: 71-110 (1958). (3259)

This issue of the Globe Review is devoted entirely to a description of the Clean-O-Matic blowroom. Included are articles on the development and advantages of the equipment, descriptions of the machines making up the basic line (Tweedales-Shirley hopper, Shirley opener, reserve feeder, picker, and bale opener) and such auxiliary machines as the hopper bale breaker, hopper blender, hopper opener/feeder, and the SRRL opener, and blowroom layouts. Photographs. Diagrams.

CARDING AND COMBING B 2

CARDING WITHOUT FLATS: REPORT ON THE SRRL CARD. R. A. Rusca, A. L. Miller, and R. S. Brown (So. Reg. Research Lab.). Textile Research J. 28: 597-599 (July 1958). (3260)

A method for carding without flats has been developed at the Southern Regional Research Laboratory. The results achieved with the experimental card are discussed in this paper. However, only limited disclosure of design details is made pending the filing of patents. Graphs. Tables.

ACTION OF THE COTTON CARD DOFFER. PART 2. D. Kaufmann. Textil-Praxis 13, No. 2: 149-156 (1958). In German. Through BCIRA 38: 363 (1958). (3261)

The equalizing action of the card, and the effect of an eccentric doffer on the sliver regularity are discussed, and combing formulas are critically examined, with reference to relevant experiments. Their results show that the amount of flat strips decreases with increasing doffer speed and with increasing feed, but the conditions are reversed for the strips from individual flats and from the cylinder. The carding effect improves with decreased doffer velocity and increased feed. Denser pinning over the width of the cylinder and doffer clothings gives better results as regards nep-opening. (For part 1 see 2431/58).

COMPARATIVE TESTS ON FLAT CARDS WITH RIGID AND SEMI-RIGID CLOTHING. M. Thomas and G. A. Boniface. Rayonne et Fibres Synthet. 14, No. 1: 67-78 (1958). In French. Through BCIRA 38: 325 (1958). (3262)

The results obtained in this study lead to the conclusion that, for the materials tested (fibers of 1.5 denier, 40 mm, and 2.5 and 4 denier, 80 mm), the rigid clothing has a certain advantage over the semi-rigid, especially for fibers of 1.5 denier, 40 mm.

INVESTIGATION OF AIR PRESSURES IN THE COTTON CARDING MACHINE. A. L. Miller, R. S. Brown, and R. A. Rusca (So. Reg. Research Lab.). Textile Research J. 28: 593-596 (July 1958). (3263)

An investigation is reported of the air pressures in the conventional cotton card, measured at strategic points with the card running idle and when processing cotton. Through the utilization of a sensitive electronic instrument capable of measuring pressures of 0.001 in. of water, both static and velocity determinations were made that have given an insight into the function of air in the card and have led to the development of a method of carding without the use of the conventional revolving flats. Graphs. Diagrams. 6 references.

STUDY OF THE EFFECT OF HALF LAP NEEDLING ON COMBING EFFICIENCY. P. E. Sperling (Coats & Clark Inc.). Textile Research J. 28: 600-611 (July 1958). (3264)

The functions of the comber half lap needle segment and the effect of its design on waste removal are described. Results of some mill trials using different needling specifications are given. Tables. Graphs.

SINGLE RING DOFFER CONDENSER. J. A. B. Mitchell. Textile Mfr. 84: 341-343 (July 1958). (3265)

The construction, operation, and limitations of the machine are described. Photographs. Diagram. Graphs.

STUDY OF COTTON COMBING. C. D. Brandt (Whitin Mach. Works). Textile Research J. 28: 616-620 (July 1958). (3266)

The background and the general mechanics of combing are reviewed, including how the comber functions, what it does, and the economics of the process. Diagram. Graphs. Table.

NEPOTOMETER STUDIES: USE AS A MILL INSTRUMENT: PROGRESS REPORT. L. D. Pryor and J. P. Elting (Kendall Co.). Textile Research J. 28: 575-579 (July 1958). (3267)

The first section of this report presents the results of 3 mill experiments in which the Nepotometer grade of the cotton used is compared with that obtained with the Neptel instrument. The second section presents a comparison of the nepping potential of raw cotton, expressed as Nepotometer grade, with the conventional measurements for fineness and maturity. When attention is restricted to American Upland cottons of 1 1/32-1 1/16 in. staple and grades of Strict Low Middling to Middling, Nepotometer grade is a superior criterion to either fineness or maturity in predicting the tendency of cottons to form neps.

DRAWING AND ROVING B 3

VARIATIONS IN ROVING WEIGHT INTRODUCED BY THE SLUBBER: SUMMARY OF FINDINGS FROM THE ANALYSIS OF MILL PRODUCED ROVINGS. N. L. Enrick and W. D. Hicks (Inst. of Textile Technol.). Textile Research J. 28: 564-569 (July 1958). (3268)

Conventional sizing tests of slubber roving involve the cutting and weighing of 12-yd lengths from the outside layers of bobbins. In the present study, mill produced rovings were subjected to special sizing tests, whereby each bobbin was sized to the barrel. The results showed many unusual patterns of variation, which are described. One frequent finding was that roving was excessively light or stretched at frame start-up. A comparison of processing methods, test results, and correlation diagrams of the data is presented, from which general conclusions may be drawn concerning the processing of roving. Since the weight variation in the sliver fed was determined, the weight variation introduced by the slubber could be evaluated. Table. Graphs. 4 references.

SPRING-WEIGHTED DRAWING FRAMES IN SPUN RAYON PROCESSING. E. Simon. Melliand Textilber. 38, No. 12: 1333-1335 (1957). In German. Through BCIRA 38: 297 (1958). (3269)

The experiments described show that correct choice of the type and accurate setting of drawing frames leads to extremely high yarn quality. The 3 x 4 roller drawing frame is especially satisfactory in spun rayon processing; then follows the 4 x 4 system for the first and the 3 x 4 system for the second drawing passage. The yarn values are favorably affected by the PK 211 E05 double-apron drawing rollers on the ring spinning machine.

CREEL SPINDLE FOR ROVING BOBBINS. Dratex GmbH. Melliand Textilber. 38, No. 12: 1349 (1957). In German. Through BCIRA 38: 297 (1958). (3270)

The new cheap creel spindle described is provided with plastic friction bearings and requires no braking.

SPINNING, WINDING, TWISTING B 4

THEORY OF THE SPINNING BALLOON. C. Mack. Quart. J. Mech. Appl. Math. 11, Pt. 2: 196-207 (1958). Through BCIRA 38: 363 (1958). (3271)

Differential equations of motion are obtained for a flexible uniform string rotating with a constant large angular velocity about a fixed axis when the string has a constant velocity along its length, and air drag per unit length is proportional to a fixed power of the normal component of air velocity and acts in the direction of this component. For steady state curves the equations are solved, a formal solution being obtained for the case of zero air-drag, and an expansion for finite air-drag.

ECONOMICS OF TRAVELER LIFE. P. M. Strang. Whitin Rev. 25: 2-9 (June 1958). (3272)

SUPREME TRAVELERS RUN LONGER. Carter Traveler Co. Textile Inds. 122: 53 (July 1958). (3273)

Supreme travelers tested by Erlanger Mills for a year have run a minimum of 4 weeks, whereas travelers formerly used were changed approximately twice in 24 hr on a critical blend. Although the new type travelers cost about 3 times as much as ordinary ones, the extended running interval justifies the added expense.

SPINNING SYNTHETIC FIBERS ON COTTON EQUIPMENT. P. Muller. Rayonne et Fibres Synthet. 13, No. 12: 1475-1477 (1957); 14, No. 1: 61-66; No. 2: 201-204; No. 3: 362-366; No. 4: 487-491 (1958). In French. Through BCIRA 38: 326 (1958). (3274)

Machinery for spinning nylon and Tergal (polyethylene terephthalate) staple fibers is reviewed.

OPTIMUM RING SPINNING SPEEDS. H. Baldauf. Deut. Textiltech. 8, No. 3: 117-120 (1958). In German. Through BCIRA 38: 364 (1958). (3275)

The most advantageous ring diameters on ring spinning machines are discussed, comparison being made between various ring diameters and cop weights from the economical standpoint. The experiments were carried out on yarn counts Nm 85, 120 and 140 with ring diameters ranging from 34-45 mm. For yarn counts of Nm 85 and higher, greatest productivity and lowest costs resulted from the use of 38-mm rings at a traveler speed of 23 m/sec.

SIMPLE CONSTRUCTION OF THE RING RAIL CAM. S. Bauch. Deut. Textiltech. 8, No. 2: 57-60 (1958). In German. Through BCIRA 38: 363 (1958). (3276)

Effect of the cam form on the ring rail movement is discussed, and means are shown for the construction of a ring rail cam, on the basis of a given yarn package, without the use of higher mathematics.

EFFECT OF THE SPINNING MACHINE DEVELOPMENT ON NUMBER OF BREAKAGES AND QUALITY OF YARN. F. Monfort and L. Cormann. Ann. Sci. Textiles Belges No. 4: 38-57 (Dec. 1957). In French. Through BCIRA 38: 326 (1958). (3277)

This paper is part of a study on the spinnability of wool.

PREDICTING ENDS DOWN FROM SMALL LOT SPINNING TESTS. H. K. C. Woo (N. C. State Coll.). Textile Research J. 28: 612-616 (July 1958). (3278)

The Poisson frequency function was used to translate the end breakage rate of 35 and 75/1000 spindles/hr into a series of critical values which would be used to judge spinning performance in small lot spinning tests for various numbers of spindles used. The critical values for various numbers of spindles used were determined graphically from the cumulative frequency of Poisson distribution. A graph of these critical values for various numbers of spindles for the two levels of end-breakage has been constructed for a rapid evaluation of spinning performance. Tables. Graphs. 5 references.

RIETER H1 WOOLEN RING FRAME. J. J. Rieter & Co. Ltd. Textile Recorder 76: 66-67, 69 (Aug. 1958). (3279)

Features of the creel arrangement, false twist drafting system, and the moving spindle rail arrangement are described in detail.

CAN SPINNING OF STAPLE FIBERS BY THE DRY SPINNING PROCESS. K. Bettermann. Faserforsch. u. Textiltech. 9, No. 2: 67-75 (1958). In German. Through BCIRA 38: 297 (1958). (3280)

On critical examination of various spinning-centrifuge systems, the vertical centrifuge spindle was found to be preferable to the suspended or horizontal form. The various possibilities of yarn delivery from the spinning can are discussed, with special reference to the economic advantages of single as compared to total delivery. Starting operations during spinning and possibility of automation in can spinning are also treated.

FILEX THREAD SUCTION INSTALLATIONS FOR COTTON SPINNING MACHINES. Melliand Textilber. 39, No. 1: 16-17 (1958). In German. Through BCIRA 38: 298 (1958). (3281)

The new combined Filex thread-suction and dust-removal installation, without filter box but with fine filter, has the following advantages: completely draft free recirculation and satisfactory filtration of the exhaust air, less dust and fly in the spinning room, clean machines, reduced cleaning work, no interfering effects on the atmosphere on account of well-distributed air recirculation, better yarn quality, and small space requirement.

MODERNIZING WHITIN MODEL E WOOL SPINNING FRAMES. Whitin Mach. Works. Whitin Rev. 25: 32-38 (June 1958). (3282)

Described and illustrated are new accessories for the Whitin E wool spinning machine. Photographs. Diagrams.

QUICKLY SPOT ENDS-DOWN. Textile Inds. 122: 75-76 (July 1958). (3283)

The twin-beam illuminating device described includes a mercury-vapor lamp mounted on one end of the frame at the level of the threads between the delivery roll and the pig tail. A mirror at the opposite end of the frame reflects the light which illuminates the ends and makes them more readily visible to the operatives from either end of the frame. Photographs.

RUNOUT AND HARDNESS CHARACTERISTICS IN SPINNING FRAME BOTTOM ROLLS. Whitin Mach. Works. Whitin Rev. 25: 17-21 (June 1958). (3284)

The materials used and operations involved in the manufacture of fluted rolls are described, and the practical tolerances of roll runout are discussed.

FALSE TWIST TWISTING MACHINES. J Schneider. Rayonne et Fibres Synthet. 14, No. 2: 205-214 (1958). In French. Through BCIRA 38: 326 (1958). (3285)

Various continuous and discontinuous mechanisms of false twist twisting machines for the production of crimped yarns are reviewed.

YARNS B 5

CEOLON POLYURETHANE FOAM YARNS. Skinner's Silk & Rayon Record 32: 747, 749 (July 1958). (3286)

Ceolon is made from a foamed polyurethane and has a specific gravity of about 0.035 g/cc. The yarn encloses a series of interconnected air pockets with a smaller proportion of insulated air cells. The woven or knitted fabric is air permeable and comfortable to wear. Polyurethane yarns are unaffected by soap, synthetic detergents, or the solvents used in drycleaning.

NYLON YARNS WITH FILAMENTS OF NONCIRCULAR CROSS-SECTION. G. W. Meacock. Nylon Outlook 1, No. 3: 14-19 (Summer 1958). (3287)

The production, properties, and applications of nylon filaments of noncircular cross-section are described. Diagrams.

EFFECT OF TWIST ON TENSILE PROPERTIES OF NYLON YARNS AND CORDS. W. S. Symes. Nylon Outlook 1, No. 3: 34-39 (Summer 1958). (3288)

Data on the specific effects of twist on multifilament yarns and on cords are presented as a basis for determining the optimum twist for various textile applications. Graphs. Diagrams.

PRODUCTION OF YARNS WITH LOW TWIST FOR THE KNITTING INDUSTRY. H. Neidel. Deut. Textiltech. 8, No. 3: 121-125 (1958). In German. Through BCIRA 38: 365 (1958). (3289)

The experimental spinning tests described show that the lowest twist coefficient that can be obtained for large-scale production, by changing the ratio d:D (tube diameter:ring diameter) and using a 16% viscose staple/84% cotton mixture, is 105.

CONTINUOUS CONTROL OF PHYSICOCHEMICAL CHARACTERISTICS OF REGENERATED CELLULOSE YARNS. P. Rochas and J. Henno. Bull. Inst. Textile France No. 70: 65-77 (Oct. 1957). In French. Through BCIRA 38: 322 (1958). (3290)

Relationships between wetting elongation and spinning characteristics of rayon and between wetting elongation and the deformations imparted to the yarn after spinning are discussed, and description is given of an apparatus for the continuous control of the physicochemical properties of rayon yarn by studying its behavior to wetting. The apparatus can also be used in detecting accidental mechanical stretching of the yarn after spinning, and in distinguishing between spinning irregularities and accidental after-spinning elongation.

EFFECT YARNS IN RAYON DRESS MATERIALS. T. Raspe. Tex 17, No. 2: 170-180, 181 (1958). In Dutch. Through BCIRA 38: 298 (1958). (3291)

Various types of effect yarns and the corresponding machines are reviewed.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

WINDING STUDY. PART 2. C. Willemarck. Ann. Sci. Textiles Belges No. 4: 103-122 (Dec. 1957). In French. Through BCIRA 38: 328 (1958). (3292)

In continuation of the previous paper (abstr. 2048/58), the author discusses the effects of diameter and weight of the bobbin on the winding speed and number of yarn breakages. From the binomial distribution of defective bobbins in a sample of n bobbins, problems relating to the number of machines to be attended to by one worker are developed.

DESIZING LINSEED OIL SIZED RAYON WITH SYNTHETIC DETERGENTS. P. Rochas, S. Pierret, and R. Bellaton. Teinture et Apprets No. 43: 229-236 (Dec. 1957). In French. Through BCIRA 38: 331 (1958). (3293)

In order to reduce the degradation of linseed-oil-sized viscose rayon during alkaline desizing, a study was made on the possibility of using detergents in neutral or weakly-alkaline medium. Derivatives of alkylphenol ethylene-oxide condensation products (pH about 7), when used in the presence of sodium sulfate, remove the normally polymerized sizes at a temperature of 75° C. The desized viscose rayon shows a much lower loss of strength than on desizing with soap. In the case of viscose/cellulose acetate fabrics, desizing takes place without the risk of acetate degradation.

BOBBIN CREELS FOR HIGH-EFFICIENCY WARPING AND BEAMING MACHINES. G. Hain. Deut. Textiltech. 8, No. 2: 62-64 (1958). In German. Through BCIRA 38: 366 (1958). (3294)

Various bobbin-creel constructions are reviewed, and their advantages and disadvantages discussed. After comparing the different creels, the most economical bobbin creel for high speed warping and beaming machines is pointed out.

DEVELOPMENT IN THE CONSTRUCTION OF CONE WARPING MACHINES. P. J. M. Van Gorp. Tex 17, No. 2: 204-211; No. 3: 335-348 (1958). In Dutch. Through BCIRA 38: 299 (1958). (3295)

BITROMA HIGH-EFFICIENCY CHEESE WINDING MACHINE. Z. ges. Textil-Ind. 60, No. 6: 214-218; No. 7: 272-275 (1958). In German. Through BCIRA 38: 299 (1958). (3296)

Constructional details are given of the double-drum Bitroma winding machine producing conical and cylindrical cheeses (5 in. lift) from woolen, cotton, spun rayon, worsted, and synthetic fiber yarns. Infinitely variable winding speeds of 200-1,500 m/min can be obtained on this machine. Other advantages are enumerated.

WEAVING C 2

FUNDAMENTALS OF LENO DESIGNING. PART 1. E. B. Berry (N. C. State Coll. School of Textiles). Textile Bull. 84: 60, 62-66 (July 1958). (3297)

The function of thread crossing in leno fabrics, the looms and yarns used, slackener motion, jumper motion, leno designs, selvages, and one-cross-one leno are discussed. Diagrams.

CAN YOU USE A SAMPLE DEPARTMENT? O. Hughes. Textile Inds. 122: 81-82 (July 1958). (3298)

A relatively inexpensive method of producing fabric samples, partly in a separate department and partly integrated in the regular production departments, is outlined.

LOOM SPEEDS. R. B. Pressley. Textile World 108: 58-59 (Aug. 1958). (3299)

A program for increasing loom speed and efficiency is outlined.

WEAVING SPHERICAL, CONICAL, AND OTHER SHAPED FABRICS. A. R. Campman and E. Koppelman (Raymond De-Icer & Eng. Co.). Textile Inds. 122: 64-67 (July 1958). (3300)

Results of research carried out to determine the best ways of weaving 3-dimensional fabrics for use in the reinforced plastics industry are presented. Diagrams. Photographs.

SUITABILITY AND USE OF SYNTHETIC HARNESS CORDS. M. Kappel. Melliand Textilber. 39, No. 1: 42-44 (1958). In German. Through BCIRA 38: 301 (1958). (3301)

The technological properties of harness cords from polyester, polyamide, Fortisan (saponified cellulose acetate), flax, and ramie fibers were examined, taking into account the experiences collected in jacquard weaving mills during practical use of these cords. The reports indicate some difficulties associated with the introduction of synthetic harness cords, which limit their applicability.

PICKER STICK BUFFER. Melliand Textilber. 39, No. 1: 41 (1958). In German. Through BCIRA 38: 300 (1958). (3302)

The Duromid 183-2D circular buffer (from leather and plastic) is claimed to retain its elasticity for an extremely long time and to eliminate readjustment of the picking-stick mechanism.

MODERN FOUR-COLOR SHUTTLE CHANGE AS AUTOMATIC LOOM ATTACHMENT. W. Gade. Melliand Textilber. 39, No. 1: 38-41 (1958). In German. Through BCIRA 38: 300 (1958). (3303)

Construction and mechanism of the French Butin loom attachment are described and illustrated, and its advantages are pointed out.

DOUBLE LIFT JACQUARD MACHINE WITH OPEN SHED. H. Maier. Textil-Praxis 13, No. 2: 166-167 (1958). In German. Through BCIRA 38: 367 (1958). (3304)

The author discusses special features of double lift jacquard machines with open shed, especially those of the Verdol jacquard machine (Grosse-Webereimaschinen GmbH).

DEVELOPMENT OF THE SHAFT DRIVE ON DOBBY LOOMS. H. Osswald. Textil-Praxis 13, No. 2: 167-169 (1958). In German. Through BCIRA 38: 367 (1958). (3305)

Reference is made in particular to the center-shed dobby, constructed by Felix Tonnar GmbH, with new heddle shaft drive. Constructional details and advantages of the machine are described.

PIERON TWO-CYLINDER JACQUARD MACHINE WITH DOUBLE LIFT FOR OPEN SHED. W. Riesnert. Tex 17, No. 3: 329-331 (1958). In Dutch. Through BCIRA 38: 300 (1958). (3306)

The mechanism and advantages of the machine are described.

CIRCULAR LOOM. J. Schneider. Melliand Textilber 39, No. 1: 26-33 (1958). In German. Through BCIRA 38: 300 (1958). (3307)

The mechanism of the circular loom as compared with the flat loom is discussed, with special reference to the Saint-Frères and the Fayolle-Ancet looms, their similarities and differences.

LOOM UPKEEP PRACTICES SURVEYED. C. West. Textile Inds. 122: 122-123, 127 (Aug. 1958). (3308)

A survey was made of the loom maintenance programs of a number of mills with single-shuttle looms. The findings of the survey are summarized.

150 YEARS OF BOBBIN NET WEAVING. F. Heer. Melliand Textilber. 38, No. 12: 1349-1352 (1957). In German. Through BCIRA 38: 301 (1958). (3309)

Development and mechanism of the first bobbin-net machine are described, with reference to the present production of tulles, woven lace, and lace curtain materials.

FULLY AUTOMATIC TERRY TOWEL WEAVING. PART 5. H. Barlow. Textile Recorder 76: 54-56 (Aug. 1958). (3310)

The Northrop 4-box terry towel loom is automatic not only in the replenishing of weft up to 4 colors, and in the terry, cramming, fringing, weighting, and measuring motions, but is also provided with an automatic ground warp letoff motion, a terry warp delivery motion, and warp stop motions for both terry and ground warps. Photograph. Diagrams.

KNITTING C 3

IMPROVED KOMET VERTICAL SHAFT BUSHINGS. K. O. Metz. Textile Inds. 122: 153 (Aug. 1958). (3311)

Two Oilite replacement bushings (or bearings) for the vertical drive shaft on Scott and Williams' Komet machines are described and illustrated.

POINTERS FOR TWIN-THREAD FF KNITTING. W. B. Snow. Textile Inds. 122: 155, 157 (Aug. 1958). (3312)

A threading system that will minimize cut holes, press-offs, and skips in changing to twin-thread knitting is described in detail.

GETAZ LOOPLESS TOE. Textile Inds. 122: 122-123, 131 (July 1958). (3313)

With the Getaz toe for seamless nylon stockings no looping is required, eliminating the cost of this operation. The toe of the stocking is closed by seaming a gusset located on the bottom of the foot in the center and extending from a point near the end of the toe for approximately 3 in. toward the heel. Photographs. Diagrams.

HOW TO KNIT SAABA. C. J. Dudzik (Universal Winding Co.). Textile Inds. 122: 126-128 (July 1958). (3314)

Saaba yarn is actually a reprocessed Superloft or Fluflon false-twist stretch yarn which results in a uniform textured yarn. The most critical points in processing are balanced torque, uniform tension and stitch size, and separation of lots from different sources. Photographs.

ELIMINATION OF ELECTROSTATIC CHARGES DURING PROCESSING OF PERLON ON BOBBIN NET MACHINES. M. von Ardenne. Deut. Textiltech. 8, No. 3: 138-140 (1958). In German. Through BCIRA 38: 368 (1958). (3315)

It is shown that although air ionization removes static electricity from Perlon filament, it has no effect on the reduction of degree of soiling by the graphite used as smoothing agent for bobbin net machines. The graphite is rubbed into the Perlon filaments during the weaving process, so that its complete removal by washing is rendered impossible. The suitability of other smoothing agents (colorless or white powders) has to be investigated, but it can be evaluated only after prolonged testing.

FABRICS C 4

EMPIRICAL RELATIONS OF CREASE RECOVERY AND TIME. P. R. Wilkinson and H. E. Stanley (E. I. du Pont de Nemours & Co.). Textile Research J. 28: 669-673 (Aug. 1958). (3316)

A technique for measuring short-time crease recovery is described. Data from this method and from the standard Monsanto method were used to establish several empirical relationships between crease recovery and time which give linear plots and which permit extrapolation to very short and very long times. One of these relationships gives a linear plot over the time range of 5 sec to several days. These relationships lead to several new parameters for characterizing fabric recovery: very short time crease recovery, rate of delayed recovery, and recovery after infinite time. These parameters depend primarily on fiber type and to a much lesser extent on fabric construction. Graphs. Tables. 2 references.

CAUSES OF DEFECTS IN SYNTHETIC FIBERS. K. Vogler and J. Weibel. Textil-Rundschau 13, No. 3: 163-166 (1958). In German. Through BCIRA 38: 345 (1958). (3317)

Occurrence and causes of streakiness and color differences in warp and weft direction in nylon fabrics, and tears in nylon garments after short wear are discussed.

DEFECTIVE WOOL PRODUCED BY SHEEP DIPS. C. Earland. (Letter to the editor). J. Soc. Dyers Colourists 74: 545 (July 1958). (3318)

Color changes in wool fabrics produced by sheep dips are briefly noted.

KNOTLESS NETS. Nippon Seimo Co. Ltd. Textiles in Ind. 3: 58 (July 1958). (3319)

The method of making the nets is briefly described.

SHEETS AND PILLOW CASES. Consumer Repts. 23: 417-419 (Aug. 1958). (3320)

Ratings are given for major brands.

SIMULATED FUR COATS FOR WOMEN. Consumer Repts. 23: 423-427 (Aug. 1958). (3321)

The advantages and disadvantages of simulated furs for women's coats are discussed.

MAKING A SATURATOR FOR NONWOVENS. Textile Inds. 122: 97, 99 (July 1958). (3322)

Suggestions for designing and building a latex impregnator. Diagrams.

NEEDLE FELTING: MODERN CONCEPT OF AN ANCIENT MATERIAL. E. F. Didier (Torrington Co.). Can. Textile J. 75: 53-55 (July 25, 1958). (3323)

The operation and construction of needle looms are described. Diagrams. Photographs.

EFFECT OF WEAVE AND FABRIC STRUCTURE ON THE WEAR STRENGTH. S. Richter. Deut. Textiltech. 8, No. 1: 23-25 (1958). In German. Through BCIRA 38: 380 (1958). (3324)

Fabrics with 4 different weaves (plain, twill, sateen, and a new arrangement) were examined for their resistance to tearing, bursting, and abrasion. In order to obtain comparable results, the tests were made on pieces from a loom whose warp and weft tension and thread density were continuously controlled. The results are discussed and tabulated.

NYLON FILTER CLOTHS. A. D. Turnbull. Nylon Outlook 1, No. 3: 22-27 (Summer 1958). (3325)

The requirements, applications, and factors involved in the choice of a filter cloth are explained, and the basic properties of nylon which make it particularly suitable for filter fabrics are described. Photographs.

MANMADE FIBERS FROM THE VIEWPOINT OF PROGRESS IN TEXTILE TECHNOLOGY. H. Böhringer. Reyon, Zellwolle u. Chemiefasern No. 1: 28-32 (1958). In German. Through BCIRA 38: 358 (1958). (3326)

Factors affecting the wear value of manmade fiber textiles (drawing ratio, water uptake, surface structure, and cross-section characteristics) are discussed, with special reference to the favorable effect on the character and wear resistance of fabrics from fibers with various cross-sections (profile, surface graining, and lumen).

PROGRESS IN THE FIELD OF SPUN RAYON FABRICS: WASHFASTNESS OF FINISHES. L. Martin. Rayonne et Fibres Synthet. 14, No. 2: 159, 165, 167, 169, 171, 173 (1958). In French. Through BCIRA 38: 344 (1958). (3327)

The permanency of resin content, of the state of deswelling, and of crease resistance, the rate of drying and the no-iron character, the dimensional stability, and dynamometric properties were tested on impregnated cotton, ordinary spun rayon, and spun rayon with improved characteristics, by subjecting the fabrics to 5 laundering processes at 45° C in washing machines. The results are discussed and tabulated.

COMPARATIVE STUDY OF THE HIGH TEMPERATURE BEHAVIOR OF MODIFIED COTTON AND SEVERAL OTHER FIBERS. R. Specklin. Rev. Gén. Caoutchouc 34: 245-250 (1957). Through Chem. Abstr. 52, No. 7: 5828-5829 (1958). (3328)

Partially acetylated cotton (Crestine), cyanoethylated cotton, nylon, Perlon, cotton, ramie, and linen fabric samples were exposed to dry heat for times up to 1,008 hr at 140, 150, and 160° C, and cotton and Crestine at 190-195° C for 24-39 hr, and then compared for strength and elongation at break. A series of 9 samples of increasing acetyl content (0-52.5%) were also examined for permeability to air at 50 mm pressure, for strength, elongation, recovery, and dye absorption. Increasing acetyl content improved all properties, and while cotton was better than linen and ramie after heating, modified celluloses were much improved, and Crestine was several times superior to cotton. At the same elevated temperatures, nylon and Perlon were definitely inferior.

FINISHING AND CHEMICAL PROCESSING D

CHEMICAL PROCESSES D 1

OPTICAL BRIGHTENERS (OPTISCHE AUFHELLER). E. Uhlein. Moser-Verlag, Garmisch-Partenkirchen. 1957. 86 p. In German. Through BCIRA 38: 369 (1958). (3329)

This is a review of the literature dealing with constitution, properties, applications, and analysis. There are 616 references, some 500 of them relating to patent specifications.

TABULATED REVIEW OF COMMERCIAL OPTICAL BLEACHING AGENTS. J. Dostmann. Deut. Textiltech. 8, No. 1: 44-45 (1958). In German. Through BCIRA 38: 369 (1958). (3330)

In supplementation of a previous article (abstr. 2557/58), the author gives, in the form of a table, the trade name and producers, uses, fastness to light, washing and alkali, and other characteristics of the commercially available optical bleaching agents.

EVALUATION OF FORMALDEHYDE PRETREATMENT FOR WOOL BLEACHING. J. E. Moore and R. A. O'Connell. Textile Research J. 28: 687-690 (Aug. 1958). (3331)

The formaldehyde treatment of wool fibers and fabric prior to bleaching by hot alkaline peroxide solutions was investigated. Although pretreated fabrics exhibit lower alkali solubility and better handle after bleaching, characteristic degradation, shown by various single fiber as well as fabric properties, is not retarded by the pretreatment. Formaldehyde pretreatment alone, under the conditions used, lowers the breaking stress and breaking extension of single fibers, but this degradation may not be severe enough to cause concern for many fabric uses. Other experiments, without formaldehyde pretreatment, fail to support the claim that wool fibers possess increased susceptibility to damage when strained prior to bleaching. Graphs. Tables. 15 references.

NONSILICATE STABILIZATION OF HYDROGEN PEROXIDE BLEACH SOLUTIONS. D. M. Cates and W. H. Cranor (N. C. State Coll.). Textile Research J. 28: 708-713 (Aug. 1958). (3332)

Alkaline solutions of hydrogen peroxide are stabilized by addition of calcium chloride and disodium phosphate. Evidence is given that stabilization may be due to the formation of $CaHPO_4$ as precipitate. Graphs. Tables. 5 references.

SIZING AND DESIZING. W. Schnupp. Melliand Textilber. 38, No. 12: 1380-1385 (1957). In German. Through BCIRA 38: 302 (1958). (3333)

Problems encountered in sizing and desizing are discussed, with reference to the reasons for desizing of starch-sized fabrics, desizing agents, and continuous desizing methods, and sources of faults occurring in desizing.

SOME ASPECTS OF BLEACHING WITH HYDROGEN PEROXIDE AND WITH PERACETIC ACID. L. Chesner and G. C. Woodford (Laporte Chem. Ltd). J. Soc. Dyers Colourists 74: 531-542 (July 1958). (3334)

The methods and the theory of the bleaching of some of the principal textile fibers with hydrogen peroxide and peracetic acid are discussed. Observations are included on the greater ease of soil removal from bleached wool in relation to washing processes and the role of stabilization in cotton bleaching processes. Improvements to existing bleaching methods are given, with particular reference to the use of per acids in kier bleaching, and some data are presented on the decomposition of dilute solutions of peracetic acid. Tables. Graphs. 19 references.

DEGRADATION BY LIGHT OF OPTICAL BRIGHTENING AGENTS. E. Elöd and H. Jörder. Melliand Textilber. 39, No. 1: 61-64 (1958). In German. Through BCIRA 38: 302 (1958). (3335)

The rapid destruction of optical brightening agents by light is associated with the chemical structure of these compounds and their fluorescence power. It is, therefore, necessary to find optical brighteners which are relatively lightfast and produce, during their destruction by light, a minimum amount of colored products so as to prevent yellowing of the textiles treated. These decomposition products must be removable by washing, so that the fabric can be brought again to the desired degree of whiteness by further addition of the brightening agent.

PHOTOTENDERIZATION BY ANTHRAQUINONE 2,6-DISULFONIC ACID OF COTTON DUCK BEFORE AND AFTER WEATHERING. A. D. Baskin and A. M. Kaplan (U.S. Army Quartermaster Research & Develop. Center). Textile Research J. 28: 554-559 (July 1958). (3336)

Anthraquinone sulfonic acid has been reported to impart mildew resistance to cotton fiber by partial esterification of the fiber. Data obtained on field exposed fabrics treated with anthraquinone 2,6-disulfonic acid for resistance to microbiological attack suggest that light could be the major factor affecting loss in breaking strength of the materials studied. Graphs. Tables. 13 references.

SILICONE EMULSIONS FOR THE TEXTILE INDUSTRY. H. Enders and H. Neuwirth. Melliand Textilber. 39, No. 1: 80-85; No. 2: 190-196; No. 3: 309-319 (1958). In German. Through BCIRA 38: 306 (1958). (3337)

Stable polysiloxane emulsions, which give on various textile materials (especially cotton and spun rayon) permanent impregnation effects, are discussed. Of special interest are combinations with resin condensates, by means of which improved crease resistance together with permanent water repellency can be obtained on these fabrics. Properties, methods of application and uses of, and the technological effects to be expected from, the new silicone emulsions are reviewed.

AUXILIARY PRODUCTS IN THE FINISHING TRADE. G. V. W. Kendell. Textile Mfr. 84: 372-374 (July 1958). (3338)

Auxiliary products for use in resin finishing, napping, and proofing, as well as nonabsorbent, nonslip, softening, delustering, and whitening agents are discussed.

PREPARATION AND PROPERTIES OF PARTIALLY BENZYLATED COTTON. E. Klein, D. J. Stanonis, P. Harbrink, and R. J. Berni (So. Reg. Research Lab.). Textile Research J. 28: 659-668 (Aug. 1958). (3339)

Ternary systems, such as alcohol, water, and sodium hydroxide, were used in the pretreatment bath or added in fixed quantities to cotton prior to etherification with benzyl chloride. Evidence was obtained which supports an hypothesis that increased reagent solubility, coupled with control of the cellulose: sodacellulose equilibrium, can lead to essentially homogeneous cotton cellulose modifications. In addition, the experiments resulted in the preparation of interesting fibrous cellulose ethers. These ethers retained many of the desirable mechanical properties of the original cotton and showed increases in elastic recovery, decreased permanent set, substantivity to disperse dyes, microbiological resistance, and a high degree of thermoplasticity. Graphs. Tables. Photomicrographs. 12 references.

ALKANOL HC AND HCS SURFACE ACTIVE AGENTS. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 14: 76-96 (June 1958). (3340)

Properties and applications are described.

MOTHPROOFING OF WOOL WITH DIELDRIN. M. Lipson and J. R. McPhee (Wool Textile Research Labs., CSIRO, Australia). Textile Research J. 28: 679-686 (Aug. 1958). (3341)

Dieldrin does not react with wool but, during treatment in aqueous emulsions, some of the insecticide penetrates the fibers. Dieldrin is gradually lost when treated wool is washed in soap solutions, but an initial application of 0.05% on the weight of wool gives a mothproofing effect which withstands machine washing for 3 hr. ASTM standard tests have been applied to wool containing 0.05% Dieldrin, and the insectproofing effect found to be fast (Class 3) to laundering, dry and wet cleaning, hot pressing, sea water, acid and alkaline perspiration, light, and rubbing. Application is preferred from the dyebath when dyeing is the final wet process. Tables. 13 references.

HOT-AIR DRYING IN THE SIZING OF CARPET BACKING YARNS. A. Crossland. Textile Recorder 76: 49-51 (Aug. 1958). (3342)

The major advantage of using hot-air instead of steam can or cylinder dryers in carpet backing sizing is speed. The tension arrangement, pressure rolls, drying chamber, and creel arrangement used in hot-air sizing are described.

COMPARISON BETWEEN THE MECHANICAL PROPERTIES OF COTTON FIBERS AND OF ELEMENTARY FLAX CELLS. VARIATION IN THE STRESS-ELONGATION CURVE OF ELEMENTARY FIBERS AS A RESULT OF DEGRADATION BY HYPOCHLORITES. A. Parisot, D. Leiber, and O. Topin. Bull. Inst. Textile France No. 71: 7-59 (Dec. 1957). In French. Through BCIRA 38: 340 (1958). (3343)

The study on the variations of the main mechanical parameters (as determined from the stress-elongation curve) of cotton fibers and elementary fiber cells of flax concerns the particular case of chemical degradation resulting from hypochlorite treatment accompanying washing.

SYSTEMATIC PROCESSING CONTROL IN CREASE-PROOFING. K. Ziener. Deut. Textiltech. 8, No. 2: 81-85 (1958). In German. Through BCIRA 38: 372 (1958). (3344)

The control system described comprises tests on the raw material, the fabric before creaseproofing, the precondensate used and catalyst, the effect of assistants on the creaseproofing liquors, the creaseproofing liquor in the padder, the water, the working process, the impregnated fabric, and special tests (e.g. determination of tensile strength and elongation, resin content, swelling value, washfastness, abrasion resistance, nitrogen content, etc.).

PRESKA SILK-LIKE RESIN FINISHES. R. Allscher. Rayonne et Fibres Synthet. 14, No. 3: 375-382 (1958). In French. Through BCIRA 38: 336 (1958). (3345)

Characteristics of the process (Preska Permanent) are described, handle of the treated fabrics (cotton, viscose rayon), brilliancy and permanency of the finish, tear strength and abrasion resistance of the fabrics, and removal of the finish are discussed, and some recommendations are given for obtaining optimum effects.

ACRYLIC RESINS IN THE TEXTILE FIELD. I. Ronzoni. Tinctoria 55, No. 1: 3-10 (1958). In Italian. Through BCIRA 38: 273 (1958). (3346)

In this review, the author discusses the preparation, properties, and methods of application of acrylic resins. 16 references.

EFFECT OF DYES ON THE DEGRADATION OF COTTON DURING WASHING AND BLEACHING. J. Cyrot and J. Bouligaud. Bull. Inst. Textile France No. 70: 7-19 (Oct. 1957). In French. Through BCIRA 38: 332 (1958). (3347)

Samples of the same cotton fabric dyed with different dyes were subjected, respectively, to repeated exposures in the Fadeometer and to successive bleaching treatments comprising washing, treatment with sodium hypochlorite, and ironing. It was found that certain yellow and orange dyes accelerate the rate of cellulose degradation by light, while certain violet, blue, and green dyes exhibit a protective action. The same phenomenon was ascertained in the case of degradation by bleaching, although the majority of the dyes tested were found to have no effect.

SULFONATED HIGHER FATTY ALCOHOL DETERGENTS. G. Rudelli. Tinctoria 55, No. 3: 81-87 (1958). In Italian. Through BCIRA 38: 331 (1958). (3348)

Methods for testing the lathering, dispersing, peptizing, and detergent power of these products are reviewed, and the effects of pH and addition of electrolytes on their detergent power are discussed. 11 references.

DYEING AND PRINTING D 2

SCREEN-PRINTING MOSAIC. PART 3. A. Franken. Tex 17, No. 2: 181-188, 189 (1958). In Dutch. Through BCIRA 38: 305 (1958). (3349)

The author describes the preparation of printing pastes and the equipment necessary.

STABILITY AND LEVELING POWER OF DIRECT DYES DURING DYEING OF CELLULOSE FIBERS AT TEMPERATURES ABOVE 100° C. G. Puhlmann. Deut. Textiltech. 8, No. 1: 38-39 (1958). In German. Through BCIRA 38: 370 (1958). (3350)

The leveling power, affinity, and stability of substantive dyes are compared at 95 and 120° C and it is concluded that, on the basis of these properties, there is only a small selection of dyes suitable for high temperature dyeing. Ten direct dyes (products of the VEB Farbenfabrik Wolfen) are listed.

REMAZOL DYES. O. Ziegler. Melliand Textilber. 39, No. 1: 66 (1958). In German. Through BCIRA 38: 304 (1958). (3351)

This new type of dyes (Farbwerke Hoechst AG) contains groups which are capable, as such or in the form of their functional derivatives, of reacting during the printing or dyeing process with fiber, forming a stable chemical compound between dye and fiber.

DYEING OF SYNTHETIC FIBERS AND THEIR BLENDS BY CONTINUOUS METHODS. R. Wittwer. Textil-Rundschau 13, No. 3: 160-163 (1958). In German. Through BCIRA 38: 334 (1958). (3352)

Continuous dyeing methods for synthetic fibers are based on the principle of allowing the dye, mechanically applied to the fabric surface, to penetrate at increased temperature and/or in the presence of swelling agents into the fiber center, and fixing it there. The application of the dye takes place exclusively by padding, and the fixation can be effected (1) by dry heat (Thermosol process); (2) by dry heat with subsequent acid-shock treatment (for the treatment of polyamide fabrics); (3) by steaming or wet-heat treatment (pad-roll process); (4) by means of solvent vapors (Vapocol process); or (5) by hot, molten metal or hot sand (Standfast and fluid-bed methods). The methods are described.

TECHNICAL DYEING OF POLYAMIDE AND POLYACRYLONITRILE TEXTILES. F. Weber. Prakt. Chem. 8: 192 (1957). Through BCIRA 38: 334 (1958). (3353)

The author discusses the streaky dyeings obtained when dyeing polyamide textiles with 2:1 chromium (or cobalt) complex dyes, as well as with acid dyes applied in a neutral or weakly acid bath. Disperse dyes are also mentioned. The limits of affinity between cation-active and the classical basic dyes in the dyeing of polyacrylonitrile fibers are considered.

DYEING POSSIBILITIES FOR WOLCRYLON. K. Barth. Deut. Textiltech. 8, No. 3: 149-151 (1958). In German. Through BCIRA 38: 371 (1958). (3354)

The unsatisfactory fastness properties of dyed Wolcrylon type 1 gave rise to experiments on the new type 2 of Wolcrylon fiber. The difficulties are due to the fact that the high degree of stretching makes it almost impossible for the dye liquor to penetrate into the center of the hydrophobic fiber. Two methods were developed and patented; one concerns dyeing of Wolcrylon with sulfur dyes, and the other is for improving the dye affinity of Wolcrylon by pretreatment with sodium hydroxide. Detailed directions are given for the dyeing process with sulfur dyes. 29 references.

BEHAVIOR OF POLYACRYLONITRILE FIBERS TO ALKALI, AND DYEING PROBLEMS ASSOCIATED WITH IT. W. Döcke. Deut. Textiltech. 8, No. 2: 77-80 (1958). In German. Through BCIRA 38: 371 (1958). (3355)

After a brief review of the dyeing methods suggested for polyacrylonitrile fibers, the author describes the changes caused by alkali treatment, and investigates the relationships between the alkali, medium, time and temperature of treatment, and the decrease in usage value. The experiments showed that dyeing processes can be based on alkaline saponification of the nitrile groups of the polyacrylonitrile fiber. The swelling taking place simultaneously with this saponification contributes to affinity improvement of the fibers for all dye classes. Care must be taken, however, to keep alkali concentration, and temperature and time of the treatment within reasonable limits so as to prevent tensile strength losses.

DYEING OF POLYESTER FIBERS AND POLYESTER FIBER BLENDS WITH PALANIL DYES. A. Würz. Melliand Textilber. 38, No. 12: 1385-1390 (1957); 39, No. 1: 74-77 (1958). In German. Through BCIRA 38: 303 (1958). (3356)

The Palanil dyes, a new range of disperse dyes for polyester fibers, can be applied at boiling temperature, with or without addition of dyeing accelerators (carriers), as well as at temperatures above 100° C. Both methods are described, and selection of the dyes and fastness problems are discussed, with special reference to problems encountered in dyeing black shades and to the dyeing of polyester/wool, and polyester/cellulose fiber blends.

DYEING OF NYLON. B. C. M. Dorset. Textile Mfr. 84: 360-364 (July 1958). (3357)

Following an explanation of the difficulties and limitations inherent in the dyeing of nylon with disperse and acid dyes, the author discusses the chemistry and dyeing behavior of a new type of premetalized dye (Cibalan, Irgalan, Capracyl, etc.) which can be applied to nylon under ordinary dyeing conditions.

LUSANE BRILLIANT BLUE B: IMPROVED APPLICATION PROCEDURE. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 14: 60-65 (June 1958). (3358)

Lusane Brilliant Blue B is applied to cotton piece goods by padding a dispersion of the dye in the presence of a selected, high-boiling solvent. The improved procedure for its application consists of dissolving the dye in Carbitol solvent and then forming a dispersion with a special agent, Alkanol LBB surface active agent, in the presence of water.

STAINING OF HYDROPHOBIC FIBERS DURING APPLICATION OF VAT DYES TO COTTON. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 14: 66-68 (June 1958). (3359)

Data from a recent investigation to determine the staining of spun Dacron polyester fiber, Orlon acrylic fiber, filament nylon, spun nylon, and filament Arnel cellulose triacetate fiber used as effect threads in cotton suiting dyed with vat dyes are presented.

WORK OF A COLORIST IN A DYEHOUSE LABORATORY. J. T. Lynes (Courtaulds Ltd). J. Soc. Dyers Colourists 74: 542-545 (July 1958). (3360)

Summary of a lecture describing the responsibilities of a dyehouse colorist, and the work carried out by a dyehouse laboratory.

DEFICIENCIES IN MACHINE DYEING. -. Wilk. Textil-Praxis 13, No. 2: 195-196 (1958). In German. Through BCIRA 38: 370 (1958). (3361)

The Praxitest apparatus (Hans Ellner, Stuttgart) renders visible and measurable all processes taking place during dyeing. All parts of the apparatus which are not made of glass and which are in contact with the dye-liquor are of V4A steel, so that the apparatus can be used not only for dyeing, but also for bleaching, washing, desizing, etc., to test 5-30g of the material under practical conditions at a liquor ratio of 1:8-1:40. By using this apparatus it is possible to determine the required dyeing time, to observe the leveling of dyes and dye combinations, to ascertain the activity of a dye assistant during the decisive phase, to find the optimum liquor ratio for a certain material and a given dye, etc.

CONTINUOUS DEVELOPMENT OF DYEINGS WITH DIAZAMINE DYES. R. Kern. Melliand Textilber. 39, No. 1: 65 (1958). In German. Through BCIRA 38: 303 (1958). (3362)

An attempt was made to diazotize and couple dyeings with diazamine dyes on an open-width washing machine in a continuous manner. The experiments are described.

DYEING MECHANISM OF METAL COMPLEX DYES ABSORBED FROM NEUTRAL MEDIA. H. Zollinger. Textil-Rundschau 13, No. 4: 217-226 (1958). In German. Through BCIRA 38: 370 (1958). (3363)

The dyes are complexes of two molecules of o,o-dihydroxyazo dye with a trivalent metal ion, e.g. chromium or cobalt, containing in place of the sulfo groups nonionized, water-solubility-imparting groups, e.g. methylsulfonic, sulfamide, or acetylamino groups The constitution of these dyes, dyeing equilibria of the complexes on polyamide fibers, and the dyeing mechanism on polyamide and protein fibers are discussed.

EFFECT OF PLEATING ON THE SHADE OF VAT-DYED COTTON BEFORE AND AFTER TREATMENT WITH ZESET S FABRIC STABILIZER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 14: 69-72 (June 1958). (3364)

Recently obtained data are presented showing the effect of AATCC Colorfastness to Pleating, tentative test method 31-52, on the shade of vat-dyed cotton both before and after Zeset treatment. Pleating, in general, exerts a slight to noticeable effect on the shade of vat dyes with untreated and Zeset-treated dyeings showing similar results.

PRINTING CELLULOSE WITH ALCIAN X AND PROCION DYESTUFFS. G. A. Bennett. Textile Mfr. 84: 365-366 (July 1958). (3365)

Recipes for direct printing with Alcian X and for resist and discharge printing with Procion dyes are given.

EFFECTS OF FIBER CHARACTERISTICS ON DYE ABSORPTION. A. J. Hall. Textile Recorder 76: 57-59 (Aug. 1958). (3366)

On the basis of results of experiments relating to the effect of abrasion and drying on the dyeing properties of cotton and other cellulose fibers, it appears that in the mechanical handling of fabrics during bleaching, dyeing, and finishing there is good opportunity for the surface fibers to become considerably changed in respect to the fibers underneath which are partly protected from excessive friction and contact with hot surfaces as the fabrics pass through the various machines. Graphs. Diagram.

WHY ARE SUBSTANTIVE DYES SUBSTANTIVE? A. Schaeffer. Melliand Textilber. 39, No. 1: 68-74; No. 2: 182-186; No. 3: 289-292 (1958). In German. Through BCIRA 38: 302 (1958). (3367)

On the basis of extensive investigations (quantitative experiments on 450 azo dyes, and a great number of dyeing experiments on different fibers), a new substantivity theory for azo dyes is advanced. According to this theory, it is possible to alter the substantivity of the dye to be produced by extending or interrupting the line of conjugated double bonds, by introducing a greater or smaller number of sulfo groups at certain parts of the molecule, etc. The theory may also be applicable to other dye classes.

LOW-SUBSTANCE THICKENING AGENTS IN TEXTILE PRINTING. H. Schönefeld. Deut. Textiltech. 8, No. 1: 33-37 (1958). In German. Through BCIRA 38: 371 (1958). (3368)

The chemical and physical behavior of silicate gels is explained, with reference to the preparation and use of neutral silicate gels as print thickenings, with a low content of "substance" to prevent a hard handle of the fabrics. The examples given (neutral silicate thickenings with starch pastes, sodium glycolate-amylose (starch ethers), sodium cellulose glycolate, and formaldehyde starch, respectively) were tested in practice, and showed the suitability of such thickenings for various printing techniques and fabric types.

OBJECTIVE COLOR MATCHING: CONTRIBUTION TO THE PROBLEM OF COLOR MEASUREMENT. W. Binder. Melliand Textilber. 38, No. 12: 1398-1405 (1957); 39, No. 1: 77-80; No. 2: 187-190 (1958). In German. Through BCIRA 38: 304 (1958). (3369)

The theory of chromatics and the problems of color measurement are discussed. The practical application of color measurement is described, and some examples are given to show the efficiency of objective measurements carried out either by the spectral method (spectrophotometer) or by the brightness method. Reference is also made to the sensitivity of color measurement, the dependence of the shade upon the dyed material, the relationship between dye concentration and degree of remission, and the calculation of total concentration and mixing ratio of a dye mixture.

PRINTING OF ORLON ACRYLIC FIBER ALONE OR IN BLENDS WITH COTTON OR WOOL. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 14: 55-59 (June 1958). (3370)

Orlon acrylic fiber can be readily printed with Sevron dyes, the older basic type dyes, disperse, and vat dyes. Blends of 80% Orlon and 20% cotton or wool can be printed with Sevron dyes to produce shades of pastel to medium depth. Vat dyes are also suitable for printing such blends. Recommended dyes are listed, as are printing paste formulations.

MECHANICAL PROCESSES D 3

MATERIAL HANDLING IN THE SPINNING MILL. PART 1. O. Glaessner. Textile Recorder 76: 52-53 (Aug. 1958). (3371)

Recommendations for internal transport in mixing, blowing, and card rooms are presented.

FLOATING ROLLER AS NEW ELEMENT FOR ROLLER MACHINES. E. Küsters. Melliand Textilber. 39, No. 1: 88-90 (1958). In German. Through BCIRA 38: 305 (1958). (3372)

After extensive development work it was possible to construct roller machines (padders, calenders, etc.) which operate with non-sagging rollers having a relatively very small diameter. The "floating roller" constructed for this purpose consists essentially of two elements: a steel-tube cylinder polished on the inside and a stationary cross-piece, about which the steel-tube cylinder revolves, and whose diameter is by several millimeters smaller than that of the cylinder. The annular cross-section thus formed is subdivided into two chambers by two opposite sealing bars extending over the whole length of the cross-piece. One of the two chambers is provided with hydraulic pressure so as to apply uniform pressure over the whole length of the tube cylinder.

MEASUREMENT AND CONTROL OF RUNNING MATERIAL. PART 2. R. Burgholz. Textil-Praxis 13, No. 2: 178-185 (1958). In German. Through BCIRA 38: 379 (1958). (3373)

The author describes a new extensometer for measuring, registering, and controlling the elongation of running sheets of material (on sizing machines, tenters, jigs, raising machines, etc.) from the difference frequencies produced by the superposition of frequencies of two donors. The frequency measurement is effected by the condenser-charging method, in which each half-wave of the alternating current to be measured regulates the charging and discharging of a condenser. The device is provided with transistors as switching and amplifying elements.

DRYING D 4

TENTERING OF WOOLEN AND WORSTED FABRICS. Fibres 19: 203-205 (July 1958). (3374)

This article discusses the nature of tentering and tentering machinery.

EFFICIENCY IN CYLINDER DRYING. L. Walter. Textile Inds. 122: 72-74 (July 1958). (3375)

The basic principles of contact drying, effect of vapor and air films on drying rate, surface temperature measurement, and thermal dryer efficiency are discussed. Diagrams.

GAS FIRED TENTER FRAMES. Famatex GmbH. Textile Bull. 84: 70 (July 1958). (3376)

The Famatex tenter and drying frame uses a radiant tube built into the housing in the area previously occupied by the radiator. Inside the tube a radiant tube burner uses gas to provide a degree and range of temperature previously unobtainable. The design of the tube allows for higher air velocity with a corresponding increase in drying effect. Photograph.

TESTING AND MEASUREMENT E

FATIGUE TESTING DEVICES FOR YARNS AND FABRICS. W. Wegener. Melliand Textilber. 39, No. 1: 17-21 (1958). In German. Through BCIRA 38: 310 (1958). (3377)

The author has developed and describes two fatigue testers, PD 11 and PD 12, for dynamic and static testing of yarns (e.g. tire cords) and fabrics (textile belts and paper felt) subjected to stresses of long duration. The construction of both testers is based on the same loading principle, but the weighting device in one tester acts directly on the upper balance beam and, in the other, indirectly by means of a transfer bar.

APPLICATIONS OF INFRARED ABSORPTION SPECTROSCOPY TO INVESTIGATIONS OF COTTON AND MODIFIED COTTONS. PART 2. CHEMICAL MODIFICATIONS. R. T. O'Connor, E. F. DuPré, and E. R. McCall (So. Reg. Research Lab.). Textile Research J. 28: 542-554 (July 1958). (3378)

The potassium bromide disc technique is used for rapid, simple, and reproducible measurement of the infrared spectra of modified cotton fibers, yarns, and fabrics. Experiments have been designed to select bands most useful in investigations of cotton modified by esterification, etherification, or replacement reactions. The examples cited illustrate the potential usefulness of infrared absorption spectra to studies in this field. A list has been prepared of 50 infrared absorption bands (and correlations with vibrating groups which give rise to them) which summarize the spectral characteristics which have been found most useful in investigations of cottons modified by esterification, etherification, and replacement reactions. Graphs. Table. 15 references.

FIBERS E 1

METHODS FOR DETERMINING FIBER DENSITY. P. Rochas. Bull. Inst. Textile France No. 71: 95-100 (Dec. 1957). In French. Through BCIRA 38: 339 (1958). (3379)

Methods for measuring fiber density and their limitations are reviewed.

HIGH SPEED TENSILE TESTING OF FIBERS. J. W. Ballou and J. A. Roetling (E. I. du Pont de Nemours & Co.). Textile Research J. 28: 631-646 (Aug. 1958). (3380)

The response of a stress-strain tester to the forces arising in testing a sample having a linear stress-strain curve is examined theoretically. An equation is derived which gives the indicated stress in terms of the true stress, the strain, the rate of strain, the resonance frequency and damping of the stress-transducer, and the upper and lower cutoff frequencies or bandwidth of the amplifier-recorder system.

FINDINGS AND RECOMMENDATIONS ON THE USE OF THE VIBROSCOPE. D. H. Patt (Am. Cyanamid Co.). Textile Research J. 28: 691-700 (Aug. 1958). (3381)

The vibroscope method of determining linear density of fibers is based on the principle of the vibrating string, wherein the linear density is directly determined by tension and length of a fiber vibrating at resonance. In establishing a standard ASTM method for use of an instrument operating on this principle, the effect of 3 factors inherent in fibers had to be determined. These are (1) shape of fiber cross section, (2) area of cross section, and (3) Young's modulus. This paper is a report of the cooperative test program under ASTM auspices. Results indicated that equipment and procedure used without corrections for the effect of the various factors involved furnish reliable linear density measurements within about 5% of the denier value obtained. Tables. Photomicrographs. 4 references.

SIGNIFICANCE OF STRENGTH MEASUREMENTS EFFECTED ON FIBER BUNDLES OF CERTAIN TEST LENGTH. G. Raes and T. Fransen. Ann. Sci. Textiles Belges No. 4: 89-102 (Dec. 1957). In French. Through BCIRA 38: 339 (1958). (3382)

Comparison is made between fiber strength values obtained at zero test length, and at a predetermined test length, especially as regards the relationship between these values and the yarn strength. It is shown that the accuracy of the measurement affects appreciably the correlation coefficient and that, at the same accuracy, measurements carried out on a fiber length of 3 mm give, for the Congo cottons tested, better yarn strength values than those effected on zero test lengths.

NEW CONTROL DEVICES AND METHODS FOR COTTON FIBERS, YARNS, AND FABRICS. PART 1. FIBERS. Bull. Inst. Textile France No. 70: 85-102 (Oct. 1957). In French. Through BCIRA 38: 339 (1958). (3383)

The most important devices for testing fiber fineness, maturity, length, strength and elongation, and impurities, neps and regain are reviewed. 40 references.

EXAMINATION OF THE METHODS FOR THE EVALUATION OF RAW COTTON. G. Cuvelier. Bull. Inst. Textile France No. 70: 33-53 (Oct. 1957). In French. Through BCIRA 38: 340 (1958). (3384)

Methods and devices for determining the quality of cotton (color and percentage of impurities), staple length, strength, fineness, and maturity are critically examined, with special reference to the Shirley Analyzer, the Uster apparatus, the Fibrograph, various strength testers, the Arealometer, and the Micronaire tester.

SPINNING TESTS FOR PREDICTING YARN AND FABRIC QUALITY AS A ROUTINE IN A COTTON SPINNING MILL. H. Brasseur (Filatures Nouvelle Orleans). Textile Research J. 28: 626-630 (July 1958). (3385)

A direct spinning testing program used by a Belgian mill is described. Every lot entering the mill is tested in a pilot plant equipped with regular cotton machinery, the only difference being that the roving and spinning frames have only a small number of spindles. Tables. Graphs.

POLAROGRAPHIC ESTIMATION OF SULFYDRYL AND DISULFIDE GROUPS IN WOOL. J. P. E. Human (Wool Textile Research Labs, CSIRO, Australia). Textile Research J. 28: 647-654 (Aug. 1958). (3386)

Methods for determining sulfydryl sulfur only and sulfydryl plus disulfide sulfur in intact wool are described. In the first case, the wool is allowed to react with an excess of an organic mercurial in a buffer containing urea at pH 7-8.5, while in the second case sulfite as well as urea is present in a buffer at pH 8.5. Two existing methods for the polarographic determination of sulfydryl plus disulfide sulfur in protein hydrolysates have been adapted for the special case of wool. An indication of the reliability of the nonhydrolytic methods is also given. Graphs. Table. 17 references.

DYNAMOMETRIC MEASUREMENTS ON WOOL FIBERS IN TOPS: MEAN VALUE OF SPECIFIC STRENGTH, WORK OF STRETCHING, AND RATE OF LOADING. J. Grignet and F. Monfort (Peltzer & Fils SA). (Letter to the editor). Textile Research J. 28: 719-720 (Aug. 1958). (3387)

QUICK WAY TO DETERMINE VEGETABLE CONTENT OF WOOL. H. R. Keller. Textile Inds. 122: 71 (July 1958). (3388)

MICROSCOPIC EXAMINATION OF SWELLING IN PROTEIN FIBERS. W. Bobeth. Reyon, Zellwolle u. Chemiefasern No. 1: 40-44 (1958). In German. Through BCIRA 38: 377 (1958). (3389)

A description is given and photomicrographs are shown of swelling reactions and pseudolumen formation, in sulfuric acid, of casein fibers (Fibrolane, Merinova, Thiozell, Tiolan, Wipolan), casein bristles (Caslen), groundnut protein fibers (Ardil), zein fibers (Vicara, Zycon), soyabean protein fibers (Silkool), fibroin silk (Kosei silk), degummed natural silk (Bombyx mori), and wool.

DETERMINATION OF THE SETTING CONDITION OF POLYAMIDE FIBERS BY MEANS OF FLUORESCENCE MICROSCOPY. W. Bobeth and L. Kändler. Faserforsch. u. Textiltech. 8, No. 11: 444-447 (1957). In German. Through BCIRA 38: 158 (1958). (3390)

The method described consists in examining the normally drawn polyamide fibers, stained by means of Rhodamine G, under the luminescence microscope. It is particularly suitable for distinguishing between samples fixed by hot air and saturated steam; it may also be possible to use it in the control of the structural and qualitative nature of polyamide fibers during their production and processing.

PROGRESS REPORTS ON USE AND APPLICATION OF THE NEPOTOMETER: SOME FACTORS THAT AFFECT TEST RESULTS. A. R. Markezich, J. D. Tallant, and R. K. Worner (So. Reg. Research Lab.). Textile Research J. 28: 570-575 (July 1958). (3391)

This paper presents a progress report on some studies conducted with the Nepotometer at the Southern Regional Research Laboratory to determine the effect of different factors on the test results. The ultimate purpose of these investigations is to establish the most satisfactory test procedure with this instrument for evaluating the nepping tendencies of different cottons. Graphs. 7 references.

METHOD FOR DETERMINING COTTON DEGRADATION AFTER RADIOACTIVE IRRADIATION. O. Teszler and H. Hefti. Textil-Rundschau 13, No. 2: 61-66 (1958). In German. Through BCIRA 38: 276 (1958). (3392)

The microscopic method used (mushroom head reaction obtained by treating the fiber section on the slide with a drop of 15 weight % sodium hydroxide) is more sensitive than that reported previously for testing the effect of nuclear radiation of Dacron fibers and permits fine differentiation in the degree of degradation of cotton samples damaged by the irradiation. The method is rapid, reasonably accurate, and requires only small samples.

MEANS FOR MEASURING NEPS PRODUCED BY GINNING TREATMENTS. J. V. Shepherd (U.S. Cotton Ginning Lab.). Textile Research J. 28: 579-582 (July 1958). (3393)

A faster method of measuring neps in cotton ginned lint has been developed at the Cotton Ginning Research Laboratory, Stoneville, Mississippi. The time saved by this method is due largely to the use of a lap maker and a modified definition of what constitutes a nep, and amounts to 50% of the AMS method currently used. Tables.

LABORATORY EVALUATION OF NEP POTENTIAL. R. H. Souther (Cone Mills Corp.). Textile Research J. 28: 582-585 (July 1958). (3394)

Results of tests made to determine the usefulness of the Nepotometer for plant cotton buyers and blenders lead to the conclusion that the Nepotometer is a useful tool in showing nep potential of cottons and blends, but does not give sufficient information to be used for reducing nep formation qualities due to processing factors The principal use of this instrument would be for cotton buyers in selecting finer cottons for maximum strength but with minimum nep potential qualities. Tables. 4 references.

QUALITATIVE DETERMINATION OF MANMADE FIBER CONSTITUENTS, ESPECIALLY IN SHODDY SPINNING MATERIAL. E. Rockstroh. Deut. Textiltech. 8, No. 1: 7-8, 9 (1958). In German. Through BCIRA 38: 378 (1958). (3395)

Photomicrographs are given and the preparation of microspecimens, microreactions and microscopic appearance of the commercial chemical fibers (polyvinyl chloride, polyacrylonitrile, polyamide and polyester) are described. The behavior of the fibers to various reagents after 3 min is listed in a table.

PREPARATIVE ELECTRON MICROSCOPIC METHODS FOR FIBER RESEARCH. P. Kassenbeck. Melliand Textilber. 39, No. 1: 55-61 (1958). In German. Through BCIRA 38: 306 (1958). (3396)

Methods of preparing fiber specimens for electron microscopical examination (surface impression, ultra-thin sectioning, section impressions) are reviewed, and examples of their application and results of various preparation methods are given, with reference to the fine structure of nylon spherulites, surface structure of cellulose fibers as revealed by the double impression method, comparative examination of ultra-thin sections and section impressions of cellulose fibers, and the morphology of wool fibers.

MICROSCOPICAL STUDY OF VISCOSE RAYON BY MEANS OF THIN SECTIONS. W. G. Settele. Textil-Rundschau 13, No. 3: 153-159 (1958). In German. Through BCIRA 38: 341 (1958). (3397)

Preparation of 1μ-fiber cross-sections is described, and the advantages of these thin sections as compared with 6μ-sections are discussed. Shapes, pore-sizes, pigments, and structure of these cross-sections are more clearly seen on the thinner sections. Differences between the two section thicknesses appear particularly pronounced on the periphery of the cross-section; their possible causes are discussed. The cross-section regularity of a single viscose rayon filament is studied on various lengths and an attempt is made to relate the dye uptake of single rayon filaments to their cross-section characteristics. For this purpose, a micro-method was developed for determining the dye uptake on 3-4 mg fibers by means of a colorimeter or spectro-photometer.

YARNS E 2

EXAMINATION OF CREEP IN TEXTILE YARNS. G. N. Kukin and A. Solov'ev. Faserforsch. u. Textiltech. 9, No. 1: 21-30 (1958). In German. Through BCIRA 38: 276 (1958). (3398)

Changes in the deformation of various textile threads (cotton, flax, wool, viscose rayon, and high-tenacity viscose yarns) during the stress-relaxation-recovery cycle are studied as a function of time and evaluated mathematically. The results show that the residual elongation in cotton and flax yarns develops very rapidly as compared with the other yarns, apparently as a result of fiber slippage during the first moment of stress.

EVALUATION OF RETARDATION (CREEP) EXPERIMENTS BY MEANS OF THE GENERALIZED KELVIN-VOIGT MODEL. PART 1. STRESS CURVES. F. Winkler. Faserforsch. u. Textiltech. 9, No. 1: 30-36 (1958). In German. Through BCIRA 38: 277 (1958). (3399)

The calculation method given by Kukin and Solov'ev (see preceding abstr.) gives values which differ greatly from the experimental results obtained on a high-tenacity viscose rayon subjected to a retardation (creep) test on the Kelvin-Voigt model with a load corresponding to 50% of the breaking load. The author describes a combined graphic-analytical method which leads to a much better agreement between the measured and calculated values.

STUDY OF THE COVERING POWER OF YARNS. DEVICE FOR MEASURING THE APPARENT DIAMETER. J. Henno and R. Jouhet. Bull. Inst. Textile France No. 71: 101-106 (Dec. 1957). In French. Through BCIRA 38: 342 (1958). (3400)

The relationship between the covering power of yarns in a fabric and their apparent diameter is discussed. The method of determining the apparent diameter of yarns is described, and some experimental results are given for Crylor and viscose rayon yarn.

HOW TO ARRIVE AT AN AVERAGE BREAKING TIME OF 20 SECONDS ON THE USTER-ZELLWEGER DYNAMOMETER. L. Cormann. Ann. Sci. Textiles Belges No. 4: 123-130 (Dec. 1957). In French. Through BCIRA 38: 343 (1958). (3401)

The object of this note is to show the possibility of obtaining a constant mean breaking time when using the automatic Uster-Zellweger dynamometer, which is based on the principle of the mobile inclined plane and is assumed to function at a constant load gradient. The method is described.

UNIFORM FORM FOR TESTS ON THREADS AND YARNS. H. Siegel and W. Troll. Deut. Textiltech. 8, No. 1: 42-43 (1958). In German. Through BCIRA 38: 378 (1958). (3402)

The new form on which tests (tensile strength and elongation) on threads and yarns are to be recorded, is designed as an aid in systematic, practical and uniform control in spinning, doubling, weaving, and knitting plants. Directions are given for filling out the form.

PRODUCTION CONTROL WITH THE COLLECTIVE HARP STRENGTH TESTER. O. Schenzinger. Textil-Praxis 13, No. 2: 124-132 (1958). In German. Through BCIRA 38: 379 (1958). (3403)

The Schumacher harp tester is able to test, according to the yarn fineness, 100-400 samples simultaneously within about 12 min and to furnish in the shortest possible time the statistical data necessary. At the end of a measuring process, a collective stress-elongation diagram is obtained.

CALCULATION OF YARN STRENGTH FROM FIBER PROPERTIES. K. H. Fuchs. Textil-Praxis 13, No. 2: 115-120 (1958). In German. Through BCIRA 38: 379 (1958). (3404)

Literature relating to mathematical methods of evaluating yarn strength from fiber properties is reviewed, with special reference to the equations given, respectively, by V. A. Usenko (abstr. 2044/58) for yarns from viscose staple fibers and by R. W. Webb (abstr. 3089/57) for predicting single-strand yarn strength and elongation from the raw cotton quality. A simple nomogram is given in which the individual parameters (staple length, fiber fineness, twist coefficient, k-value) can be varied to determine their effect on the tensile strength of the yarn.

TEX-COTTON COUNT CONVERSION SCALE. G. L. Louis (So. Utilization Research & Develop. Div.). (Letter to the editor). Textile Research J. 28: 716-717 (Aug. 1958). (3405)

MEASUREMENT AND CONTROL OF RUNNING MATERIAL, ESPECIALLY IN TEXTILE MACHINES. PART 1. R. Burgholz. Textil-Praxis 13, No. 1: 30-35 (1958). In German. Through BCIRA 38: 191 (1958). (3406)

After a theoretical discussion of elongation and shrinkage, the author reviews the known measuring devices (yarn tension meters and measurement of length variations by marking or counters, by differential tachometers, by friction cones and worm gears, by revolution generators and electronic counters).

TEX BALANCE. Karl Frank GmbH. Melliand Textilber. 39, No. 1: 25-26 (1958). In German. Through BCIRA 38: 309 (1958). (3407)

The new tex system is a direct or weight numbering system based on the metric units g and m. The number corresponds to the yarn weight per certain length unit, the basic unit being tex = 1,000 m/1g (millitex = 0.001 tex; kilotex = 1,000 tex). The balance constructed for weighing the yarn has a dial with two measuring ranges: the metric numbers Nm and the correspondingly calculated tex values. The tex scale has black and white spaces which correspond to the validity range of whole tex numbers.

METHOD FOR DETERMINING THE HOMOGENEITY OF WOOL/MANMADE FIBER BLENDS. G. Gianola. Bull. Inst. Textile France No. 71: 77-90 (Dec. 1957). In French. Through BCIRA 38: 342 (1958). (3408)

The method described consists in measuring the variation coefficients in the original yarns, and then in the yarns remaining after dissolution of the wool, by means of a regularity tester. The variability in the distribution of each constituent in the mixture is calculated from the given formulas. The method was applied to wool/viscose and wool/nylon yarns.

DETERMINATION OF POINTS ON THE CB(L) (VARIANCE LENGTH) CURVE BY THE DISCONTINUOUS SUMMATION AND EVALUATION METHOD. W. Wegener and H. Peuker. Textil-Praxis 13, No. 2: 133-143 (1958). In German. Summary in BCIRA 38: 378 (1958). (3409)

PNEUMATIC REGULARITY TESTER FOR SLIVERS AND FILAMENTS. S. Meyer. Faserforsch. u. Textiltech. 8, No. 10: 417-427 (1957). In German. Through BCIRA 38: 103 (1958). (3410)

The regularity testers available at present and the principles of pneumatic measuring devices are reviewed and the construction of the model developed by the author is described, which is equipped with an air-pressure regulator, a measuring nozzle, a pneumatic transfer member, a differential membrane manometer, a writing device, and doffing means. The device was tested and compared with an Uster regularity tester; the diagrams were in good agreement.

FATIGUE TESTING OF TIRE CORDS IN RUBBER. J. Buchan. Nylon Outlook 1, No. 3: 4-11 (Summer 1958). (3411)

The method of testing tire cords on the Scott machine is described. Photographs. Tables. 4 references.

FABRICS E 3

CLOSER TEMPERATURE CONTROL MEANS BETTER ARMY UNIFORMS. J. R. Breckenridge. Instrumentation 11: 21-24 (May/June 1958). (3412)

Fabric research on army clothing under closely conducted temperatures at the Natick Quartermaster Research and Engineering Center is described. Photographs. Diagram.

ECLATOMETER BURSTING STRENGTH TESTER. T. Belleli. Bull. Inst. Textile France No. 70: 60-64 (Oct. 1957). In French. Through BCIRA 38: 343 (1958). (3413)

The mechanism of the tester is described, and the use of uni-directional clamps is suggested, which would permit testing the bursting strength of warp and weft separately. Good agreement was found between the eclatometer and dynamometer values for the 12 fabrics tested.

AIR PERMEABILITY OF COTTON FABRICS. N. S. Poroshin. Tekstil. Prom. 17, No. 9: 39-41 (1957). In Russian. Through BCIRA 38: 160 (1958). (3414)

The methods described and equations recommended make it possible to determine the air permeability value for a great number of fabrics and to design fabrics with a given air permeability, especially those intended for work garments to be worn in plants liberating toxic vapors or in hot metallurgical works.

GRAYING, YELLOWING, AND WHITENESS DEGREE OF FABRICS. K. J. Nieuwenhuis. Textil-Rundschau 13, No. 2: 82-86 (1958). In German. Through BCIRA 38: 277 (1958). (3415)

Determination of deviations from absolute whiteness by means of the tristimulus system with three filters is discussed, and a table is given comparing various whiteness degree formulas with visual evaluation.

METHOD RECOMMENDED FOR THE EVALUATION OF WATER IMPERMEABILITY OF FABRICS UNDER HYDROSTATIC PRESSURE BY MEANS OF THE SCHMERBER PERMEABILITY TESTER. Bull. Inst. Textile France No. 71: 106-109 (Dec. 1957). In French. Through BCIRA 38: 344 (1958). (3416)

Conditions are specified for the use of the Schmerber permeability tester in determining the impermeability to water of fabrics under hydrostatic pressure. Sampling, apparatus, mode of operation, evaluation of results, and data to be included in the report are defined.

CREASOMETER: AN APPARATUS FOR MEASURING CREASE AND PLEAT SHARPNESS AND RETENTION. P. R. Wilkinson and D. W. Ireland (E. I. du Pont de Nemours & Co.). Textile Research J. 28: 674-679 (Aug. 1958). (3417)

This paper describes an instrument designed to measure the sharpness of a crease or pleat in a fabric specimen. Such data can be used to predict the behavior of garment creases during wear and after washing. Tables. Diagram. Photographs. 4 references.

TEST INSTRUMENTS NO. 1: BOCKING CARPET ABRADER. C. H. Sturley. Nylon Outlook 1, No. 3: 20-21 (Summer 1958). (3418)

The Bocking carpet abrader is a heavily built abrader of the Schiefer type, designed specifically to test the durability of pile carpets. Its operation is briefly described. Photograph.

USE OF DEVICES FOR ARTIFICIAL SUNLIGHT EXPOSURE IN TESTING FASTNESS TO LIGHT. Inst. Textile France. Bull. Inst. Textile France No. 70: 79-82 (Oct. 1957). In French. Through BCIRA 38: 344 (1958). (3419)

In order to reduce the discrepancies between the results obtained with the devices available at present and those given by daylight exposures, general recommendations are made, and a uniform mode of operation is proposed, taking into account the choice of apparatus in dependence of light source, temperature and humidity control, the actual fastness measurement of dyeings and prints, and evaluation of the results.

HOW TO ANALYZE TERRY FABRICS. T. Hargreaves. Textile Inds. 122: 90-95 (July 1958). (3420)

A system of analyzing terry fabrics is explained and illustrated.

OTHER E 4

DETERMINATION OF WATER CONTENT IN TEXTILES BY THE KARL FISCHER METHOD. A. Agster and M. Wandel. Melliand Textilber. 38, No. 12: 1411-1416 (1957). In German. Through BCIRA 38: 306 (1958). (3421)

Tentative experiments have shown that the method is also suitable for determining the moisture content of textiles. The possibility of applying it to all fiber yarns, the working conditions for obtaining highest accuracy, and the differences between the Karl Fischer and the drying method are investigated, and the principle of the method, preparation of the Karl Fischer reagent, and identification of the titration endpoint are described.

EFFECT OF ATMOSPHERIC CONTAMINANTS ON LIGHTFASTNESS TESTING. AATCC Comm. on Lightfastness. Am. Dyestuff Reptr. 47: P450-P451 (June 30, 1958). (3422)

The work reported covers the laboratory testing of the various dyeings under the conditions of (1) oxides of nitrogen from combustion gases, (2) ozone, and (3) acid or alkali surface conditions. Tables. 9 references.

CHEMICAL TESTING OF TEXTILES. G. Rordorf. Spinner u. Weber 75, No. 18: 955-957; No. 24: 1326-1328 (1957). In German. Through BCIRA 38: 126 (1958). (3423)

The author discusses testing of stock solutions, determination of the pH value, control of bleaching liquors, moisture-content determination in fibers, and determination of dye groups on dyed textiles (wool, cellulose fibers, cellulose acetate, and manmade fibers).

DETERMINATION OF LIGHTFASTNESS. P. Rabe. Reyon, Zellwolle u. Chemiefasern No. 12: 855-860 (1957). In German. Through BCIRA 38: 160 (1958). (3424)

Methods for measuring the lightfastness of dyeings are reviewed and the different scales are compared. Brief reference is made to the apparatus available (Fadeometer, Xenotest).

DETERMINATION OF WEATHERING FASTNESS OF DYEINGS AND PRINTS. E. Brunnschweiler. Textil-Rundschau 13, No. 4: 226-231 (1958). In German. Through BCIRA 38: 380 (1958). (3425)

Definitions, method of testing, and evaluation of results (as suggested in the report of the Swiss committee for the standardization of weathering fastness) are described, and proposals for directions in determining the weather fastness of dyeings and prints and for the specification of minimum fastness requirements are discussed, and criticism is invited.

INDUSTRIAL ENGINEERING F

SUPPLY CONTROL SYSTEM. J. McArthur (Erwin Mills). Textile Inds. 122: 119-121, 133 (Aug. 1958). (3426)

The Erwin Mills control system is described in detail, using sample forms to illustrate its operation.

MACHINERY AND MAINTENANCE F 1

HIGH TEMPERATURE MOTORS. G. B. Dunn, Jr. Textile Inds. 122: 79-80 (July 1958). (3427)

A line of 75 C rise TENV (Totally Enclosed Non-Ventilated) motors has been developed with larger horsepower ratings in smaller frame sizes. Such factors as lint, maintenance, safety, size, efficiency, reliability, modifications, and economics are discussed.

HOW TO EXTEND COOLING TOWER LIFE. Milton Roy Co. Textile Inds. 122: 103 (July 1958). (3428)

Addition of sulfuric acid to maintain the pH of the water between 7.0 and 7.5 prevents both internal and surface deterioration of cooling towers. Methods for metering and pumping acid to cooling water are described. Diagrams.

MACHINERY LAYOUTS HELP SUPERVISORS. C. H. Ashton. Textile Inds. 122: 51-52 (July 1958). (3429)

Forms showing the layout of machinery in a spinning and weaving department are used by one mill for assigning jobs and for discussing machinery or job modifications.

MACHINE LUBRICATION IN THE TEXTILE INDUSTRY. G. Krebs. Textil-Praxis 12, No. 11: 1155-1156 (1957). In German. Through BCIRA 38: 104 (1958). (3430)

The development of lubricating greases based on soap (calcium, sodium, and metal soap greases) and special oils and their uses are discussed.

TIPS ON STEAM TRAPS. L. S. Metcalfe. Textile Bull. 84: 72-74 (July 1958). (3431)

The four principal types of steam traps (thermostatic, mechanical, orifice, thermodynamic) are described. Diagrams.

STEAM POWER EQUIPMENT LUBRICATION. E. W. Fair. Can. Textile J. 75: 75-76 (June 27, 1958). (3432)

Recommendations are given for lubricating steam cylinders, reciprocating steam engines, and mechanical drive turbines.

MAINTENANCE CHECKLIST FOR CENTRIFUGAL PUMPS. P. C. Ziemke. Textile World 108: 128 (Aug. 1958). (3433)

QUALITY CONTROL F 3

GUARANTEEING QUALITY IN YARN MANUFACTURING. G. Guggenheim. Textile Bull. 84: 57-59 (July 1958). (3434)

The use of an evenness tester as a quality control instrument is stressed.

SIMPLE QUALITY CONTROL. J. Wheeler (Canton Cotton Mills). Textile Inds. 122:. 58-60 (July 1958). (3435)

The various tests essential to a simple quality control program in a cotton mill, from raw cotton to gray goods, are outlined.

SOME PRACTICAL ASPECTS OF THE IMPLEMENTATION OF CONTROL CHARTS IN SPINNING MILLS. R. G. Newbery (Brit. Cotton Ind. Research Assoc.). J. Textile Inst. 49: P229-P235 (June 1958). (3436)

In this discussion of the problems faced in the application of present control chart theories, the way in which the charts may be used most effectively is examined. Graphs. 5 references.

ASQC CONVENTION TRANSACTIONS 1958. Am. Soc. for Quality Control, Room 6197, Plankinton Building, 161 West Wisconsin Ave., Milwaukee 3, Wis. 1958. 617 p. $3.50. (3437)

This volume contains the following papers of textile interest: Quality assurance to the ultimate consumer in the textile industry, by J. B. Gurley, p. 153-244; A designed experiment to evaluate seven yarn lubricants, by H. M. Hill and D. Wheeler, p. 245-253; Statistical control of a spinning laboratory, by P. R. Ewald, p. 255-549; and Role of research in quality improvement, by R. D. Wells, p. 551-560.

SCIENCES G

CHEMISTRY G 1

EFFECT OF pH VALUE ON PROTEIN SUBSTANCES, WITH SPECIAL REFERENCE TO WOOL. H. Zahn. Z. ges. Textil-Ind. 60, No. 3: 118-124 (1958). In German. Summary in BCIRA 38: 276 (1958). (3438)

LAMELLAR STRUCTURE OF TEXTILE FIBERS. G. Centola. Teintex 23, No. 3: 177-193 (1958). In French. Through BCIRA 38: 339 (1958). (3439)

It has been proved that certain fiber-forming synthetic high polymers, when flattened to films, show a characteristic lamellar structure in which one of the crystallographic planes, parallel to the axis of the molecular chain, is oriented selectively in the direction of the plane of the film. This indicates that, as in cellulose and natural cellulosic fibers, the lateral anisotropy of molecular chains and of crystalline zones also plays an important role in synthetic fibers, the substance of which tends to arrange itself along the lamellar zones.

ENERGY INTERACTION BETWEEN TEXTILE FIBERS AND PIGMENT SOIL DURING THE WASHING PROCESS. PART 2. H. Lange. Kolloid Z. 156, No. 2: 108-113 (1958). In German. Through BCIRA 38: 311 (1958). (3440)

From the course of the curves for the interaction energy between textile fibers and pigment soil particles in detergent solutions, conclusions are drawn as to the loosening of pigment soil adhering to the fiber and the adsorption of pigment particles from the washing liquor by the fiber.

EFFECT OF ELECTROLYTES ON THE FIXATION OF CARBOXYMETHYLCELLULOSE ON TEXTILE FIBERS. J. Stawitz, W. Klaus, and H. Krämer. Kolloid Z. 155, No. 2: 131-132 (1957). In German. Through BCIRA 38: 311 (1958). (3441)

The method described in a previous article (abstr. 2887/57) was extended to carboxymethylcellulose (CMC) solutions containing alkali or detergent-active substances or both. It was found that the proportion of CMC adhering firmly to the cotton fiber is much greater than in the case of pure aqueous solutions. The same amount of CMC was found on the fiber in the presence of 1% common salt. The retention of CMC increased on repeated treatment of the cotton fibers with CMC solutions. In contrast to cotton, practically no CMC was fixed, even in the presence of soda or salt, on acetate rayon, Perlon, and wool.

FACTORS CONTROLLING MICELLE FORMATION IN SURFACTANT SOLUTIONS. J. C. Harris (Monsanto Chem. Co.). Soap Chem. Specialties 34: 50-53, 180-181 (June 1958); 47-49, 91 (July 1958). (3442)

The measurement of micelle formation, micellar structure, and the practical importance of critical micelle concentration values are discussed. Benchmarks are provided for comparison of the values. Principles controlling the critical micelle concentration are listed. 66 references.

ULTRAVIOLET PERMEABILITY OF TEXTILE FIBER SOLUTIONS. W. Schefer. Textil-Rundschau 13, No. 2: 86-88 (1958). In German. Through BCIRA 38: 275 (1958). (3443)

Details of the intensity and course of ultraviolet absorption by the fibers at various wavelengths are shown graphically. The measurements can be applied in characterization of chemically modified fibers and in chemical identification of dyes in dyeings on synthetic fibers.

ELECTRON DIFFRACTION STUDY OF ADSORBED METAL IONS ON THE SURFACE OF CELLULOSE MICROFIBRILS. D. S. Belford, A. Myers, and R. D. Preston. Nature 181: 1516-1518 (May 31, 1958). (3444)

HYDROLYSIS OF CELLULOSE AND ITS RELATION TO STRUCTURE. PART 2. A. Sharples (Brit. Rayon Research Assoc.). Trans. Faraday Soc. 54: 913-917 (June 1958). (3445)

Experiments are described on the hydrolytic degradation of a series of cellulose crystallites, and the results are discussed in relation to previously proposed mechanisms of hydrolysis. An inverse relation was found to hold between hydrolysis rate constant and mean crystallite length, and from this it is confirmed that the mechanism by which the crystallites degrade is one involving end attack. The results also indicate that the mean length of the crystallites in a sample of cellulose is related to the amount of crystalline material present. 8 references. For part 1 see abstr. 2276/57.

REACTIVITIES OF LOWER ALIPHATIC ANHYDRIDES TOWARD HYDROXYL GROUPS OF CELLULOSE. C. J. Malm, L. J. Tanghe, H. M. Herzog, and M. H. Stewart (Eastman Kodak Co.). Ind. Eng. Chem. 50: 1061-1066 (July 1958). (3446)

Data given contribute to understanding of reactions taking place during manufacture of the lower aliphatic ester of cellulose. Graphs. Tables. 11 references.

SOLVATION AND SWELLING PHENOMENA IN CELLULOSE FIBERS. THE ACTION OF SODIUM HYDROXIDE SOLUTIONS. J. Chédin. G. Petitpas, and A. Marsaudon. Mémor. Serv. Chim. Etat 4, No. 4: 311-319 (1955). In French. Through BCIRA 38: 285 (1958). (3447)

Experimental results concerning the interaction between the aqueous solution of sodium hydroxide and cellulose fibers show the fixation of sodium hydroxide on the cellulose molecules and the accessibility of native fibers to increasing sodium hydroxide concentrations, as well as the retention of the sodium hydroxide by the cellulose even after drying or pressing.

COMPOUNDING POLYURETHANES. R. J. Ferrari, J. W. Sinner, J. C. Bill, and W. F. Brucksch (U.S. Rubber Co.). Ind. Eng. Chem. 50: 1041-1044 (July 1958). (3448)

A study has been made of the compounding of polyurethane foams to yield the combination of useful physical properties and improved resistance to humid-aging exposure. Graphs. Tables. 6 references.

MISCELLANY H

BASIC ACTIONS AS AN APPROACH TO TEXTILE FIBER PROCESSING: A SUGGESTED USE OF SYMBOLS. E. R. Schwarz (Mass. Inst. of Technol.). Textile Research J. 28: 560-563 (July 1958). (3449)

A system of symbols is proposed for the analysis of operations, subprocesses, and complete processes in order to make possible a rapid, compact, easily understood presentation of what happens to the fiber or yarn.

CONTINENTAL DYEING MACHINERY: HANOVER FAIR. Dyer 119: 759-764 (May 23, 1958). (3450)

APPLICATION OF HIGH SPEED PHOTOGRAPHY TO TEXTILE PROBLEMS. G. A. J. Orchard and R. A. Barker. J. Photogr. Sci. 5, No. 5: 126-131 (1957). Through BCIRA 38: 200 (1958). (3451)

After outlining the problems that are encountered in applying high speed photography to the study of textile materials and machines, the authors discuss some of the uses made of this technique at the Brit. Rayon Research Assoc. These include investigations of fiber orientation in card webs, filament breakage on the Stains direct spinning machine, twist movement during cone winding, weft feeler mechanism, automatic pirn changing, and circular and warp knitting.

THE SOURCES OF INVENTION. J. Jewkes, D. Sawers, and R. Stillerman. Macmillan & Co. Ltd, London; St. Martin's Press, 103 Park Ave., New York. 428 p. $6.75. Through BCIRA 38: 136 (1958). (3452)

The authors have made a study of the origins and consequences of inventions, particularly in the 19th and 20th centuries. A number of case histories include Cellophane, the cotton picker, the crease-resist process, nylon and Perlon, polyethylene, silicones, the Sulzer loom, synthetic detergents, Terylene, and the zip fastener. The position of the individual inventor and the growth of organized research are discussed. A number of questions are posed, e.g. is institutionalized research the kind of system most conducive to innovation?

TEXTILE RESEARCH IN THE RUBBER INDUSTRY. R. S. Goy, J. O. Wood, and J. A. Jenkins. Proc. Instn Rubber Ind. 5, No. 1: 20-33 (1958). Through BCIRA 38: 343 (1958). (3453)

Some important properties of textile materials used in the rubber industry are discussed. Strength is the prime requirement. It is shown that processing may alter the strength of textile cords, and it is frequently advisable to carry out tests on cords from the vulcanized product. The maintenance of strength under service conditions provides a measure of the fatigue resistance of the textile; four fatigue testing machines are described. Finally, the effects of hot-stretching and hot-setting are considered in relation to the elastic and thermal properties of nylon and Terylene.

NEW TEXTILE MACHINES IN CZECHOSLOVAKIA. V. Houdek. Deut. Textiltech. 8, No. 1: 11-18 (1958). In German. Through BCIRA 38: 388 (1958). (3454)

The most recent products of Czechoslovakian textile machinery makers are reviewed, in particular: spinning, weaving, knitting and finishing machines, and textile testing devices.

TEXTILE WORLD 1958 FACT FILE. Textile World 108, No. 7M: 1-250 (Mid-July 1958). (3455)

Mill reference data are presented under the following categories: general, cotton, wool, manmade fibers, knitting, chemical treatment, and engineering and maintenance. A buyer's guide with a classified list of companies supplying the textile industry is included.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

MANMADE FIBERS A 2

ASBESTOS-LIKE FIBROUS ALKALI METAL TITANATES. K. L. Berry (to E. I. du Pont de Nemours & Co.). USP 2 841 470, July 1, 1958. (3456)

YARN PRODUCTION B

LUBRICATION OF TEXTILE FIBERS. Deutsche Gold und Silber Scheideanstalt. BP 792 624, Apr. 2, 1958. Through BCIRA 38: 326 (1958). (3457)

Colloidal silica solutions, used to increase the resistance to friction of fibers, are mixed with one or more oxides of Ti, Zr, or Al.

METHOD AND APPARATUS FOR CRIMPING FILAMENTS. L. Ubbelohde. BP 793 176 and 793 177, Apr. 9, 1958. (Additions to BP 783 491). Through BCIRA 38: 328 (1958). (3458)

Thermoplastic continuous filaments are passed in bundles through a heating zone, a cooling zone, and a false-twist tube. Combs, rings, or a coil spring are inserted in the heating zone to prevent a broken filament of one bundle from becoming entangled with another bundle.

APPARATUS FOR CONTINUOUS CRIMPING OF SYNTHETIC THERMOPLASTIC YARNS. NV Onderzoekingsinst. Research. BP 793 711, Apr. 23, 1958. Through BCIRA 38: 366 (1958). (3459)

The yarn travels in helical coils for about 14 cm along a heated wire or thin cylinder and thence to a false-twisting device with hollow spindle and thread storage disc, and a drawoff device, this providing the means for forwarding the yarn under a constant tension less than 6 g per 100 den. The hot wire or cylinder is so mounted that the yarn lays itself down at an angle of at least 70°, without thread guides.

SUCTION HEAD MOUNTING FOR TEXTILE CLEANING SYSTEMS. W. W. Hewitt, B. S. Powell, Jr., and G. A. White (to Spinsavac Corp.). USP 2 840 861, 2 840 862, and 2 840 863, July 1, 1958. (3460)

OPENING AND BLENDING MACHINERY. W. A. Hunter and F. Singleton (to T.M.M. (Research) Ltd). USP 2 842 803 and 2 842 804, July 15, 1958. (3461)

Apparatus for continuously blending fibers taken directly from the bale.

APPARATUS FOR OPENING CRIMPED CONTINUOUS FILAMENT TOW. W. T. Bishop and L. T. Tichenor (to Eastman Kodak Co.). USP 2 843 881, July 22, 1958. (3462)

DRAFTING ROLL COVER. J. Rockoff (to Dayton Rubber Co.). USP 2 843 883, July 22, 1958. (3463)

Cover resistant to eyebrowing and lapping has a ciliated working surface of a synthetic rubber matrix in which are embedded particles of synthetic resin and fibers.

METHOD FOR CLEANING TEXTILE MACHINES AND THE FLOORS UNDERNEATH. J. R. Long (to Parks-Cramer Co.). USP 2 844 495, July 22, 1958. (3464)

Streams of compressed air are directed outward from beneath each machine and across the floor to free accumulations of lint, fly, etc.

CARDING AND COMBING B 2

CONDENSER CARDING ENGINE. B. Cecchi (Italy). BP 793 396, Apr. 16, 1958. Through BCIRA 38: 327 (1958). (3465)

A detaching or doffer comb is arranged to act in the zone of the lowest position of the generating line of the doffer, and the web falls under its own weight to the dividing apparatus.

FLAT CARD STRIPPING ARRANGEMENT. A. Zwiesele (Germany). BP 793 488, Apr. 16, 1958. Through BCIRA 38: 326 (1958). (3466)

An additional small bend and a separating plate are inserted in the path of the usual bend where the flats run close to the main cylinder, so that the flats move away from the cylinder over a short distance. The suction created in the space thus provided strips the flats as they traverse it.

CARD SETS FOR USE WITH SPINNING PLANTS. B. Cecchi (Italy). BP 793 611 and 793 612, Apr. 23, 1958. Through BCIRA 38: 365-366 (1958). (3467)

The invention relates to means for coupling a condenser card to a spinning plant for the continuous conversion of slubbings into yarns. The machine that produces the slubbings has a number of units (e.g. finisher, cards, and web dividers) each working at a speed lower than that of the machines that feed card web to them so that the slubbings can be fed directly to a spinning plant.

CARD WEB STRIPPER. A. Varga and G. Marshall (to Carding Specialists (Canada) Ltd). BP 793 680, Apr. 23, 1958. Through BCIRA 38: 365 (1958). (3468)

A doffer roller covered with card clothing is arranged to rotate in the same direction as one of the pressure rollers so as to strip it, and an additional, plain or covered, roller is arranged to cooperate with both doffer roller and the other pressure roller rotating in the opposite direction.

CARDING SET DRIVE. J. W. Powischill (to Proctor & Schwartz Inc.). USP 2 840 859, July 1, 1958. (3469)

Drive in which the speed of the main cylinder may be varied independently of the doffer speed without affecting either the production rate of the card or the delivered sliver weight.

SLIVER COILING. J. Kaiser (to Chr. Mann Maschinenfabrik). USP 2 842 805. July 15. 1958. (3470)

Driving connection between rollers delivering sliver into a can and the rotatable plate on which the can is placed.

SHAPING FIBER LAPS IN A LAP FORMING MACHINE. R. Kawazura, K. Fujii, and M. Fujiwara (to Kanegafuchi Spinning Co. Ltd). USP 2 843 332, July 15. 1958. (3471)

Apparatus for shaping laps in order to completely wrap the loose end of the lap around the lap and tighten it.

SLIVER EVENER. A. P. Lewis and D. C. MacDonald (to U. S. Rubber Co.). USP 2 843 882. July 22. 1958. (3472)

Device for detecting and eliminating variations in weight of a sliver as it passes through two pairs of drafting rolls. The front rolls move at a constant speed, while the speed of the rear rolls varies automatically in response to the detected variations.

DRAWING AND ROVING B 3

DRAFTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 792 779, Apr. 2, 1958. Through BCIRA 38: 327 (1958). (3473)

In a drafting device comprising a top apron supporting cradle and a top roller carrier arm that can be raised out of the plane of the drafting field and carries saddle-shaped seatings for supporting the top rollers, means are provided for ensuring a sliding guided engagement of the cradle and seatings, so that these remain in correct relation.

DRAFTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 792 928, Apr. 9, 1958. Through BCIRA 38: 327 (1958). (3474)

The spring-loaded guide arms for the top rollers are arranged in succession, end to end, like links in a chain.

DRAFTING ROLL CLEARING. E. Weber (Germany). BP 793 280, Apr. 16, 1958. Through BCIRA 38: 327 (1958). (3475)

A device for preventing the transference of fly to the yarn includes a clearing roller and a roller or bar for smoothing the fly into tight contact with the clearer.

SLIVER DRAFTING MACHINERY. G. F. Raper (England). USP 2 840 860, July 1, 1958. (3476)

Device for roller drafting apparatus which eliminates the need for rollers or aprons for feeding the sliver to the drawing rolls.

TOP DRAFTING ROLL BEARING. R. B. Burris (to Faultless Caster Corp.). USP 2 841 830, July 8, 1958. (3477)

Self-lubricating ball bearing structure which remains perpetually adjusted and is sealed against accumulation of lint and foreign material.

SPINNING, WINDING, TWISTING B 4

DOUBLE-TWIST CABLING SPINDLES. Vereinigte Glanzstoff Fabriken AG. BP 792 821, Apr. 2, 1958. Through BCIRA 38: 328 (1958). (3478)

Double-twist spindle having a storage disc with high sliding friction, to serve as a brake on the yarn, and a rotating lower delivery cap.

VARIABLE SPEED DRIVE FOR SPINNING, TWISTING, AND WINDING MACHINES. Barmer Maschinenfabrik AG. BP 792 937, Apr. 9, 1958. (Addition to BP 770 710). Through BCIRA 38: 327 (1958). (3479)

The motor drive is automatically controlled in accordance with predetermined variations in yarn tension.

SPINNING MACHINES. G. H. Ambler (to Ambler Superdraft Ltd). BP 793 367, Apr. 16, 1958. Through BCIRA 38: 327 (1958). (3480)

The invention relates to equipment for converting a cap frame to a ring frame.

TWISTING UNIT FOR A RING SPINNING FRAME. E. E. Feather (to Prince-Smith & Stells Ltd). BP 794 114, Apr. 30, 1958. Through BCIRA 38: 366 (1958). (3481)

RING SPINNING MACHINE. W. Leutert (to Soc. Brematex). USP 2 841 949, July 8, 1958. (3482)

Device for controlling the vertical displacement of the ring rail.

TWO-FOR-ONE TWISTING SPINDLE. A. D. Harmon (to Deering Milliken Research Corp.). USP 2 840 979, July 1, 1958. (3483)

Spindle with yarn control means which automatically prevents additional yarn from being fed from the bobbin when the yarn breaks.

SPINNING RING. H. B. Atwood (to Herr Mfg. Co.). USP 2 840 981, July 1, 1958. (3484)

Hardened steel ring fitted at intervals with porous metal inserts for delivering lubricant to the bearing faces of the ring.

CENTRIFUGAL SPINNING AND WINDING DEVICE. C. Pujol (Spain). USP 2 842 933, July 15, 1958. (3485)

SUCTION DEVICE FOR REMOVING BROKEN THREADS FROM SPINNING MACHINES. J. Furstenberg (to Pneumafil Corp.). USP 2 843 995. July 22, 1958. (3486)

CENTRIFUGAL SPINNING FRAME. A. Gardella (Italy). USP 2 843 996, July 22, 1958. (3487)

Shiftable bottom plate and cheese carrier frame for bottomless suspended spinning cans.

TWISTING SPINDLE BALLOON CONTROL. A. W. Vibber. USP 2 843 997, July 22, 1958. (3488)

Apparatus for continuously detecting changes in the diameter and/or length of a twisting spindle balloon and for automatically controlling the diameter and/or length according to a predetermined constant.

YARN TWIST CONTROLLER FOR UPTWISTERS. O. W. Schlums (to Whitin Mach. Works). USP 2 843 998, July 22, 1958. (3489)

Control device which permits the high speed operation of uptwisters, maintains uniform twist as the yarn is unwound from its package, and enables the supply spool to be replaced without displacement of the control device.

RESILIENT BOBBIN. E. B. Davidson (to Davidson Springs Ltd). USP 2 844 333, July 22, 1958. (3490)

Bobbin composed of a helical spring encased in a cage-like sheath formed by wire laced progressively around adjoining coils of the spring.

YARNS B 5

VOLUMINOUS SYNTHETIC YARNS. D. W. Groombridge, S. G. Hawtin, and J. Downing (to Brit. Celanese Ltd). BP 792 805, Apr. 2, 1958. Through BCIRA 38: 328 (1958). (3491)

Yarn of crinkled filaments, freshly spun by the evaporative method, is doubled with a non-crinkled support yarn. The two yarns may both be of cellulose acetate and spun in a single dry cell, or the support yarn may be preformed of viscose, polyamide, or polyester filaments.

BULKED YARNS. W. Pool (to Brit. Celanese Ltd). BP 793 044, Apr. 9, 1958. Through BCIRA 38: 328 (1958). (3492)

Apparatus for converting a continuous-filament yarn into a bulked yarn by the action of a turbulent fluid stream (e.g. air) comprises an inlet tube extending through a chamber provided with a jet tip that enters the mouth of a Venturi passage. The tube and Venturi device form an annular passage for fluid that is blown into the chamber and escapes via the Venturi passage.

FIBROUS COVERING FOR ELASTIC YARN. C. C. Smith (to Darlington Fabrics Corp.). USP 2 840 882, July 1, 1958. (3493)

The cover of a soft rubber elastic yarn consists of independent untwisted fibers or filaments parallel to one another and extending the length of the yarn core. Each fiber or filament is attached at spaced points so that the projecting loops form a longitudinally stretchable, soft jacket.

SHOCK RESISTANT ROPE. L. A. Runton (to Russell Mfg. Co.). USP 2 841 046, July 1, 1958. (3494)

Rope composed of a large number, e.g. 300,000 or more, strands of high tenacity crimped filaments, e.g. nylon, Fortisan, etc., bound tightly together in a parallel relationship.

ASBESTOS/RUBBER YARN FOR FRICTION LINING. H. C. Morton (to Russell Mfg. Co.). USP 2 841 516, July 1, 1958. (3495)

A core yarn is passed through a bath of a rubber/resin composition and then through a mass of asbestos fibers suspended in air to coat the tacky core yarn. The process is repeated until the desired thickness is reached.

APPARATUS FOR TWISTING AND WINDING COATED MULTI-PLY YARNS. R. S. Owens. USP 2 842 931 and 2 842 932, July 15, 1958. (3496)

Apparatus for producing twisted and coated multi-ply yarns on a continuous basis.

STABILIZED MULTI-PLY YARNS. R. S. Owens. USP 2 842 934, July 15, 1958. (3497)

Each ply of the yarn is coated with an elastomeric coating to bond both the fibers and the plies together.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

WINDING MACHINE YARN METERING MECHANISM. Barmer Maschinenfabrik AG. BP 793 271, Apr. 16, 1958. Through BCIRA 38: 329 (1958). (3498)

A constant-speed roller with a revolution counter is fitted between the supply package and the winding-on bobbin. Variations in yarn tension are compensated for by a variable-speed drive to the bobbin.

WARP SIZING. J. J. Vincent, E. H. Jones, and K. Westerman (to Brit. Cotton Ind. Research Assoc.). BP 792 663, Apr. 2, 1958. Through BCIRA 38: 330 (1958). (3499)

The invention relates to the automatic control of the feeding of a stock substance to a bath from which it is being taken up by a running length of material. Instead of providing the concentrated size already cooked, the dry starch may be mixed with dry carob-bean flour as suspending agent, and the mixture made up with cold water to serve as stock liquor.

WINDING MACHINE TRAVERSE MECHANISM. W. Pool (to Brit. Celanese Ltd). BP 792 832, Apr. 2, 1958. Through BCIRA 38: 329 (1958). (3500)

A traverse drum is formed with a helical groove extending from one end of the drum to the other and back again. The gap between the leading and trailing edges of the groove is wide at the middle of its length along the drum, and tapers to a narrow gap towards the ends. The trailing edges have a varying helix angle but the leading edge a uniform angle.

SLUB CATCHER. G. Lee and F. Holt (to T. Holt Ltd). BP 793 254, Apr. 16, 1958. Through BCIRA 38: 330 (1958). (3501)

The device is T-shaped in plan, with a cylindrical leg and semi-circular cross piece extended to a flat table portion. The cross-piece houses a knife blade that can be adjusted by screwing up a bolt in the cylindrical leg. The knife is normally held in open position by a tension spring, but is turned if a slub comes between it and the table and severs the yarn. After the operative has removed the slub and pieced up, the knife returns to the open position.

WINDING MACHINE TRAVERSE MECHANISM. L. J. R. Wiering (to NV Hollandse Signaalapparaten). BP 793 260, Apr. 16, 1958. Through BCIRA 38: 329 (1958). (3502)

Winder in which the spindle and traverse frame are so arranged that the path of the yarn guide at any moment is a straight line against or close to the outer surface of the package, and the translational movement between them during building of the package is such that any point on one moves at right angles to the other.

PRESSER FOR FLYERS OF YARN WINDING MACHINES. J. Whitehead (to William Bodden & Son Ltd). USP 2 840 980, July 1, 1958. (3503)

Presser which produces denser bobbins permitting a greater length of yarn to be wound without impairing its physical characteristics.

WINDING MACHINE SELF-CLEANING TENSION DEVICE. J. V. Keith (to Universal Winding Co.). USP 2 842 321, July 8, 1958. (3504)

BEAM WARPER. R. P. Drake (to Barber-Colman Co.). USP 2 843 915, July 22, 1958. (3505)

Mechanism for controlling the pressure between the beam and driving drum so that it decreases as the beam is filled.

COATING BACKING CLOTH FOR SUPPORTED FILMS. L. A. Oberly and C. B. Salzinger (to Industrial Rayon Corp.). USP 2 842 473, July 8, 1958. (3506)

The process prevents undesirable strike-through of the coating material through the backing cloth and permits the simultaneous production of both a supported and an embossed unsupported film.

WARPING CREEL. W. L. Freeze (to Cocker Mach. & Foundry Co.). USP 2 844 335, July 22, 1958. (3507)

Manually controlled power operated means for replacing exhausted packages with fresh packages.

WEAVING C 2

WEFT REPLENISHING MECHANISM. W. Duxbury and W. H. Duxbury. BP 792 701, Apr. 2, 1958. Through BCIRA 38: 331 (1958). (3508)

Weft-replenishing mechanism, particularly for overpick Lancashire looms, comprises a weft detector that operates a cranked lever to raise a battery latch to a position where it is in the path of a bunter movable with the lay, and means for holding the lever until the battery latch is turned by the bunter, this causing reciprocation of the transfer member and the insertion of a fresh pirn through the side walls of the shuttle.

CENTER WEFT FORK MOTION. H. G. Smith. BP 792 714, Apr. 2, 1958. Through BCIRA 38: 331 (1958). (3509)

A leaf spring is anchored on the support bracket or back plate of the weft fork motion, so as to extend at right angles to the axis of rotation of the tippler. Its free end presses outward against the tail of the tippler. An adjustable stop on the bracket or back plate removes the spring pressure from the tippler at a predetermined point in the downward movement of the fork.

LOOM WEFT REPLENISHING MECHANISM. W. V. Gledhill and A. Chappell (to W. Gledhill & Sons Ltd). BP 793 027, Apr. 9, 1958. (Addition to BP 768 661). Through BCIRA 38: 330 (1958). (3510)

Cam mechanism for operating the endwise movement of a rocker arm forming part of the weft-replenishing mechanism of the loom covered by BP 768 661.

SHUTTLELESS LOOMS. V. M. J. Ancet and M. Fayolle (France). BP 793 031, Apr. 9, 1958. Through BCIRA 38: 330 (1958). (3511)

The weft gripper of a stationary weft supply loom, of the type in which the weft is pulled by a needle, comprises a fixed jaw, formed by the underside of the base of a thread-catching tongue raised obliquely towards the rear end of the needle, and a lower, pivoted jaw.

SHEAVE ASSEMBLY. C. Van Deventer IV. USP 2 841 020, July 1, 1958. (3512)

Construction which provides for a constant spaced relationship of the sheaves and substantially reduces the generation of heat between the bearing members due to the rotation of the sheaves.

WEFT REPLENISHING MECHANISM. Adolph Saurer Ltd. BP 793 317, Apr. 16, 1958. Through BCIRA 38: 331 (1958). (3513)

The invention relates to a weft-mixing loom having juxtaposed storage compartments for the various sorts of weft bobbins. Each compartment is associated with an elongated bobbin catcher that works independently of the other catchers to intercept the lowermost bobbin of the compartment and carries it to a common delivery position above the shuttle into which it is to be put.

MULTI-CELL SHUTTLE BOX LOOMS. W. V. Gledhill. BP 793 454, Apr. 16, 1958. Through BCIRA 38: 330 (1958). (3514)

Holder for keeping trailing ends of weft clear of the path of the shuttle on an automatic weft-replenishing loom. Two overlapping members (rods, or one being a pivoted catch) intercept the weft end and force it to bend in order to escape through the opening between them.

WARP LETOFF MOTION. Adolph Saurer Ltd. BP 794 223, Apr. 30, 1958. Through BCIRA 38: 368 (1958). (3515)

Single-acting hydraulic damper acts, through a lever arm, on the warp beam so as to resist strongly the turning of the beam in the direction of the turning moment but not to oppose turning against the force.

HARNESS FRAME CONTROL MECHANISM. M. B Penman (to Magee Carpet Co.). USP 2 841 184, July 1, 1958. (3516)

Electrically controlled mechanism for selectively raising and lowering the frames in accordance with a pattern.

SELVAGE PROTECTOR. T. E. Berger. USP 2 841 185, July 1, 1958. (3517)

Loom attachment for preventing the usual kinking and drawing in of the selvage.

FILLING DETECTOR FOR GRIPPER SHUTTLE LOOM. J. Fisher (to Warner & Swasey Co.). USP 2 841 186, July 1, 1958. (3518)

VACUUM WEFT HOLDER. R. P. Head. USP 2 842 164, July 8, 1958. (3519)

Vacuum means for engaging and holding each of the weft yarns, extending from the shuttles to the fabric selvage, as soon as the shuttles are boxed.

AUTOMATIC LOOM BATTERY. S. A. Weaver. USP 2 842 165, July 8, 1958. (3520)

DROPPER JACQUARD MECHANISM FOR LACE MACHINES. F. H. Haslam-Jones (to John Jardine Ltd). USP 2 843 000, July 15, 1958. (3521)

APPARATUS FOR WEAVING NARROW FABRICS. L. Schwartz (to Cue Fastener Inc.). USP 2 843 156, July 15, 1958. (3522)

High speed weaving of tapes and ribbons is claimed on sewing machines modified for the purpose. For example, the machine may include a shed forming frame for feeding the warp yarns to the machine so that a lock stitch is formed by the warp yarn and the thread fed by the needle forms the filling.

SHUTTLE BRAKE FOR USE IN SHUTTLE BOXES. K. Schwabe (to Tissomat AG). USP 2 843 157, July 15, 1958. (3523)

NARROW WARE LOOM SHUTTLE. L. O. Waterhouse (to Crompton & Knowles Corp.). USP 2 843 158, July 15, 1958. (3524)

Shuttle made up of easily separable units, so that the unit which supports the quill can be replaced by another unit for a different size quill while retaining the same shuttle body or runner unit.

WEAVING SPINDLE AND WIRE FEED MEANS FOR WIRE FABRIC LOOM. A. E. Blashill. USP 2 843 160, July 15, 1958. (3525)

KNITTING C 3

KNITTED FABRIC. J. E. Morgan. USP 2 839 909, June 24, 1958. (3526)

A heat insulating fabric having a multitude of air-entrapping cells is knitted on a rib knitting machine with opposed needle banks.

MULTIPLE SECTION STRAIGHT BAR KNITTING MACHINE. P. G. McCarthy and D. Winfield (to William Cotton Ltd). USP 2 841 001, July 1, 1958. (3527)

The non-needle divisions and hand controls are placed in the center of the machine for more efficient operation.

CONTROL MECHANISM FOR AUTOMATIC KNITTING MACHINE. A. P. Saunders (to Wildt & Co. Ltd). USP 2 841 970, July 8, 1958. (3528)

Pattern mechanism consisting of a rotatable drum fitted with cams which actuate the automatic mechanisms of the machine, and a timing chain which initiates the racking movements of the drum.

COMPRESSIVE SURGICAL STOCKING. J. J. Bird, M. H. Comer, C. A. Miles, and R. C. Braxton (to Alamance Inds.). USP 2 841 971, July 8, 1958. (3529)

Hosiery with stitch loops knit of inelastic, multiple monofilament, synthetic, high twist yarns.

ADJUSTABLE CAM FOR CIRCULAR KNITTING MACHINES. V. H. Butler (to Burlington Inds.). USP 2 842 946, July 15, 1958. (3530)

RUN-RESISTANT KNITTED FABRIC WITH LOOPS OF DIFFERENT LENGTHS. H. Lindner and H. Lindner (to VEB Vereinigte Strumpfwerke Esda). USP 2 842 947, July 15, 1958. (3531)

DRIVE TRANSMISSION IN CIRCULAR KNITTING MACHINES. G. Moretta (Italy). USP 2 844 014, July 22, 1958. (3532)

Means of compensating for the backlash resulting from the wear in the gear teeth so as to prevent the loss of synchronism to which the machines are liable.

HAND OPERATED KNITTING MACHINE. E. Luchsinger (to Fibra AG). USP 2 844 015, July 22, 1958. (3533)

Means for ensuring that the stitches are knocked over from the stems of the needles over their closed hooks onto a row of zig-zag loops.

THREAD PULLER, HOLDER, AND CUTTER FOR STRAIGHT-BAR OR FULL-FASHIONED KNITTING MACHINES. A. J. Cobert (to Beautiful Bryans Inc.). USP 2 844 016, July 22, 1958. (3534)

Automatic device for pulling the yarn out of the yarn carrier tube offset from the needles, holding the yarn, and severing it.

METHOD FOR MAKING CURTAIN FABRICS ON GALON CROCHET MACHINE. R. Dittrich (Germany). USP 2 844 017, July 22, 1958. (3535)

FABRICS C 4

IMITATION FUR PILE FABRICS. E. Jefford and F. G. Holroyd (to Lister & Co. Ltd). BP 793 699, Apr. 23, 1958. Through BCIRA 38: 368 (1958). (3536)

A pile fabric is produced in a known manner with two types of fiber in the pile yarn, differing in thickness and in response to a shrinking treatment, e.g. nylon and a vinyl polymer. After treatment, e.g. a dyeing process, the pile is resolved into fine, short filaments (ground fur) and coarse, long filaments (the guard hairs).

ADHESIVE CURTAIN PLEATING TAPES. S. Broughton. BP 793 703, Apr. 23, 1958. Through BCIRA 38: 368 (1958). (3537)

The tape has portions that contain or are treated with a thermoplastic adhesive, so that it can be fixed to the curtain merely by applying a hot iron.

COLLARS FOR PERSONAL WEAR. F. Eaton (to Hogg & Mitchell Ltd). BP 794 063, Apr. 30, 1958. Through BCIRA 38: 369 (1958). (3538)

A permanent fold line, of appropriate shape, is formed in a collar blank, containing a thermosetting or thermoplastic constituent, by the application under suitable conditions of humidity of a press heated by a high frequency current.

APPARATUS FOR MAKING TUFTED FABRICS WITH LOOPS OF DIFFERENT HEIGHT. W. A. Rice (to Mohasco Inds.). USP 2 842 079, July 8, 1958. (3539)

ELECTRICAL HEATING ELEMENTS FOR CLOTHING AND BLANKETS. M. Stephenson and T. E. Peace (to Thomas French & Sons Ltd). BP 794 186, Apr. 30, 1958. Through BCIRA 38: 369 (1958). (3540)

The elements are flexible narrow 2-ply fabrics with resistance wire laid as weft in endless Z or S formation.

CURTAIN HEADING TAPES. R. French (to Thomas French & Sons Ltd). BP 794 263, Apr. 30, 1958. Through BCIRA 38: 368 (1958). (3541)

An elastic cord is incorporated in the tape, under predetermined tension, so that the tape (and the curtain to which it is attached) becomes pleated on releasing the tension.

SURGICAL DRESSINGS. E. L. Carus, A. F. H. Carus, and T. E. Thompson (to Alexander Carus & Sons Ltd). BP 794 352, Apr. 30, 1958. Through BCIRA 38: 368 (1958). (3542)

The dressing includes a strip of fabric (e.g. cotton) coated with a thermoplastic polymer containing a material that is opaque to x-rays (e.g. barium sulfate). The agents used are, of course, nontoxic and resistant to water.

NONWOVEN FABRIC. A. W. Bateman (to E. I. du Pont de Nemours & Co.). USP 2 840 881, July 1, 1958. (3543)

Bulky fibrous structure one surface of which exhibits lubricity so that it is suitable for use as an ironing roll cover or a window channel run lining is composed of a batt of nonwoven Teflon fiber superposed over a nonwoven batt of synthetic or natural fibers.

RANDOM TEXTURE PILE FABRIC. D. Karpoff, H. Bridgman, and E. P. Mersereau, Jr. (to Mohasco Inds.). USP 2 841 187, July 1, 1958. (3544)

Method of producing fabric in which pile loops of varying heights are randomly distributed on a loom in which the pile warps are bound over pile forming wires.

NONWOVEN FABRIC. J. H. Goldman. USP 2 841 204, July 1, 1958. (3545)

Thin, high tensile strength fabrics composed of a heterogeneous mass of non-parallel fibers. A bonding agent may be applied.

CARPET TUFT LOOP HEIGHT CONTROL. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 842 080, July 8, 1958. (3546)

YARN FEED FOR NEEDLING OR KNITTING PILE FABRICS. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 842 259, July 8, 1958. (3547)

Mechanism for varying yarn feed in accordance with a pattern.

METHOD AND APPARATUS FOR IMPREGNATING FIBER WEBS FOR NONWOVEN FABRICS. F. H. Riedel (to Wood Conversion Co.). USP 2 843 505, July 15, 1958. (3548)

NONWOVEN FABRIC. F. W. Hartstein. USP 2 842 472, July 8, 1958. (3549)

Backing for a chenille rug consists of flat layers of intersecting cords in close proximity so that the pile yarns stitched through it pass around or through one or more of the cords.

METHOD OF FLUFFING GLASS FIBER MATS. T. R. Simkins. USP 2 843 916, July 22, 1958. (3550)

Method of expanding a condensed glass fiber mat into a fluffy, low density, porous mat by the application of mechanical pressure rather than by the use of binders.

FABRIC STRIP MATERIAL FOR DEFINING THE FOLD LINES OF COLLARS. L. Bihaly (to Trubenizing Process Corp.). USP 2 844 170, July 22, 1958. (3551)

NYLON PAPER. J. K. Hubbard (to E. I. du Pont de Nemours & Co.). USP 2 844 491, July 22, 1958. (3552)

Nylon fiber paper is prepared by impregnating a nonwoven web of nylon fibers with an aqueous dispersion of N-alkoxymethyl polyamide resin and subjecting the product to heat and pressure.

FINISHING AND CHEMICAL PROCESSING D

CHEMICAL PROCESSES D 1

MACHINE FOR THE CONTINUOUS LIQUID TREATMENT OF FABRIC WEBS. Mezzera SpA. BP 793 283, Apr. 16, 1958. Through BCIRA 38: 338 (1958). (3553)

The fabric is conveyed through a treatment vat in folds on traveling rods, and is fed to the vat with a stream of the treatment liquid through a slot in the bottom of a supply receptacle.

DELUSTERING OF CELLULOSE ACETATE. D. Grady, H. Bates, and J. W. Fisher (to Brit. Celanese Ltd). BP 793 697, Apr. 23, 1958. Through BCIRA 38: 374 (1958). (3554)

The delustering action of a soap solution (pH 8.5-9) is enhanced by the addition of hydrogen peroxide, equivalent to 0.75-5 cc per liter of 130 vol. concentration.

WATERPROOFING PROCESS. L. Orthner and M. Reuter (to Farbwerke Hoechst AG). USP 2 838 422, June 10, 1958. (3555)

Water repellent fabrics are obtained by impregnation with a solution containing an aliphatic or chlorinated hydrocarbon of a tribasic aluminum salt, an aliphatic carboxylic acid of low molecular weight, e.g. acetic acid, a high molecular weight aliphatic carboxylic acid, e.g. stearic acid, and a wax, paraffin hydrocarbon, or polychlorinated hydrocarbon, followed by heating at 50 to 200° C in the presence of moisture.

HOSIERY BOARDING AND FORM INSERTING APPARATUS. M. A. Hill (to Mauney Hosiery Mills). USP 2 842 298, July 8, 1958. (3556)

TIRE CORD CONDITIONING COMPOSITION. G. S. Tompkins (to Am. Viscose Corp.). USP 2 838 455, June 10, 1958. (3557)

Cords which are more adaptable to doubling and impregnation with rubber or synthetic rubber latex are produced by the application of an emulsion consisting of an ester of a saturated fatty acid, a polyhydric alcohol, and an emulsifier.

HIGH SPEED PEROXIDE BLEACHING PROCESS FOR COTTON. W. F. Coleman (to E. I du Pont de Nemours & Co.). USP 2 839 353, June 17, 1958. (3558)

A cotton fabric is bleached in 60 sec by dampening it with 50 to 150% (dry weight of the fabric) of an aqueous alkaline solution containing peroxygen and subjecting the fabric to saturated steam at 275 to 400° F.

GLASS FIBERS COATED WITH METAL OXIDES. D. Labino (to L. O. F. Glass Fibers Co.). USP 2 839 424, June 17, 1958. (3559)

Temperature resistant glass fibers having a first coating of an oxide of calcium, barium, or zinc, and a second coating of an insoluble chromium, cobalt, aluminum, tin, or iron oxide.

METHOD AND APPARATUS FOR MAKING POLYURETHANE FOAM COATED FABRICS. W. F. Bird (to Collins & Aikman Corp.). USP 2 841 205, July 1, 1958. (3560)

FLAMEPROOFING CELLULOSIC FIBERS. J. R. Costello, Jr. and T. P. Traise (to Victor Chem. Works). USP 2 841 507, July 1, 1958. (3561)

The fabric is treated with a partially brominated dibeta-gamma-alkenyl beta-cyanoethanephosphonate and then cured.

BLEACHING TEXTILE MATERIALS WITH ALKALI METAL CHLORITES. P. Mosse (to Soc. Rhodiaceta). USP 2 842 422, July 8, 1958. (3562)

An ester such as ethyl acetate, formates or acetates of glycol or glycerol, ethyl lactate or tartrate, etc., is added to an aqueous solution of alkali metal chlorite to control the evolution of chlorine dioxide during the bleaching process.

ANTISTATIC AGENT. H. Haas, H. Markert, and G. Lietz (to Boehme Fettchemie GmbH). USP 2 842 462, July 8, 1958. (3563)

Woven or knitted fabrics are treated during processing, finishing, or use with neutral alkylene oxide addition compounds of acid phosphoric acid esters of higher molecular hydroxyl compounds to prevent generation and accumulation of static electricity.

APPARATUS FOR THE LIQUID AFTERTREATMENT OF ENDLESS CABLES OR TOWS OF ARTIFICIAL FILAMENTS. M.-O. Schurmann and H. Haimerl (to Farbenfabriken Bayer AG). USP 2 844 019, July 22, 1958. (3564)

COATING GLASS FABRICS WITH POLYTETRAFLUOROETHYLENE. R. E. Fay, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 843 502, July 15, 1958. (3565)

DYEING AND PRINTING D 2

PRODUCTION OF LEVEL DYEINGS. W. Schnupp, C. Vorck, and R. Hoffman (to Kalle & Co. AG). BP 788 369, Jan. 2, 1958. Through BCIRA 38: 123 (1958). (3566)

In a pad-steam process the fabric is padded with a suspension of a finely-divided vat dye containing an alkali salt of a starch-glycolic acid ether (reaction product of starch with chloroacetic acid in an alkaline medium), then dried, padded with a reducing agent, steamed, and treated with an oxidizing agent.

ICE COLOR PRINTING PASTES. Farbenfabriken Bayer AG. BP 788 689, Jan. 8, 1958. Through BCIRA 38: 123 (1958). (3567)

SCREEN PRINTING APPARATUS. J. Rothwell (to Brit. Cotton & Wool Dyers' Assoc. Ltd). BP 789 177, Jan. 15, 1958. Through BCIRA 38: 124 (1958). (3568)

Cylindrical wire-gauze screen is supported while a pattern is being applied to it by the inflation of a rubber sleeve surrounding a metal cylinder inside the screen.

DYEING POLYACRYLONITRILE FIBERS AND FILMS. J. R. Geigy AG. BP 789 263, Jan. 15, 1958. Through BCIRA 38: 123 (1958). (3569)

Use is made of monoazo dyes having the arylazo group attached to a C atom in a cyclic-ammonium group.

COLORING TRIACETATE MATERIALS WITH VAT DYES. H. C. Olpin and S. Taylor (to Brit. Celanese Ltd). BP 789 547, Jan. 22, 1958. Through BCIRA 38: 155 (1958). (3570)

Cellulose triacetate textiles are dyed or printed by means of mixtures of vat dyes, thiourea dioxide, and zinc thiocyanate. The material is steamed to effect reduction and fixation of the leuco compound and then treated in an oxidizing bath.

PRINTING AND PAD DYEING POLYACRYLONITRILE FABRICS. Sandoz Ltd. BP 791 294, Feb. 26, 1958 (Addition to BP 767 053). Through BCIRA 38: 216 (1958). (3571)

The cuprous ion method of applying soluble dyes to polyacrylonitrile polymers and copolymers, in which a cupric salt and metallic copper are present in the dyeing or printing paste, is modified by using cuprous oxide or a cupric salt and a reducing agent such as tartaric acid, ferrous sulfate, or stannous chloride.

DYEING MACHINE. C. Barrow (to English Sewing Cotton Co. Ltd). BP 791 597, Mar. 5, 1958. Through BCIRA 38: 244 (1958). (3572)

In an apparatus for dyeing samples of yarn or fabric, the material with the dye liquor is placed in a sealed container which is mounted with others for rotation on a shaft in a larger vessel that contains a heating liquid.

AGER FOR PROCESSING PRINTED FABRICS. H. T. Prince and W. W. Smith (to Tower Iron Works). USP 2 833 136, May 6, 1958. (3573)

Ager in which an oxygen-free atmosphere is consistently maintained and in which injury to the fabrics by drippage is avoided.

DYEING POLYESTER FIBERS. D. P. Hallada and H. P. Landerl (to E. I. du Pont de Nemours and Co.). USP 2 833 613, May 6, 1958. (3574)

Level, heavy, lightfast dyeings are produced on polyester fibers with disperse dyes by using as a carrier a fine dispersion of a mixture of dimethyl terephthalate and benzanilide.

DYEING AND PRINTING CELLULOSE ESTERS AND AROMATIC POLYESTERS. L. Thummel. E. Metzger, and J. Guenthard (to Saul & Co.). USP 2 843 448, July 15, 1958. (3575)

Lightfast and washfast shades are obtained on cellulose esters, e.g. acetate rayon, and on aromatic polyesters, e.g. Dacron or Terylene, by the action of water-soluble monosulfonated anthraquinones in the presence of a reducing agent.

PRINTING PASTE. W. Lehmann, F. Münz, O. Bayer, and H. Kleiner (to Farbenfabriken Bayer AG). USP 2 844 490, July 22, 1958. (3576)

Printing pastes which develop by intermolecular cross-linking are claimed.

PRINTING PASTE EXTENDER. F. A. Sheldon (to Sherwin-Williams Co.). USP 2 844 547, July 22, 1958. (3577)

Extender for water-in-oil printing pastes consists of a water dispersible galactomannan and a water-soluble ferrous salt.

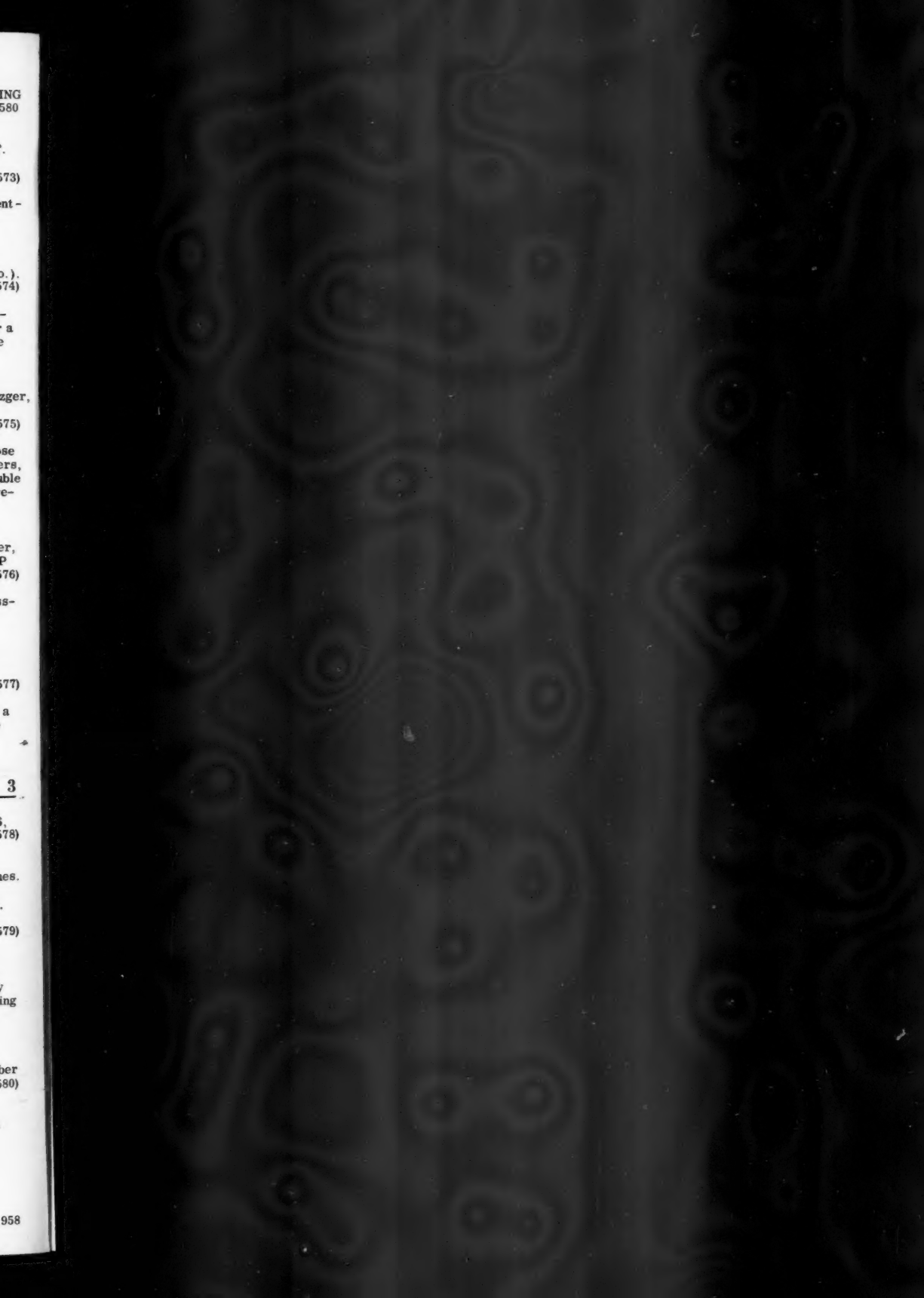
MECHANICAL PROCESSES D 3

FABRIC GUIDES. J. Dungler. BP 793 334, Apr. 16, 1958. Through BCIRA 38: 338 (1958). (3578)

Sensitive selvage guiding heads for feeding fabric in open width to bleaching, dyeing, and finishing machines.

PROCESS FOR DIPPING RAYON TIRE CORD. R. C. Waller and D. D. Ray (to Goodyear Tire & Rubber Co.). USP 2 844 487, July 22, 1958. (3579)

Tire cord of improved flex resistance, resistance to air diffusion, and strength is obtained by dipping the cord in relaxed condition in hot water, compacting by increasing the tension, removing excess water, dipping in a solution containing a rubber bonding agent, and drying under increased tension.

HEAT STRETCHING NYLON TIRE CORD. J. W. Meherg and J. M. Ripple (to Goodyear Tire & Rubber Co.). USP 2 844 488, July 22, 1958. (3580)

Nylon cord with reduced elongation and increased dimensional stability is obtained by subjecting the cord to tension and heat to cause stretching, dipping in a solution of a rubber bonding agent, and drying under tension to cause further stretching.